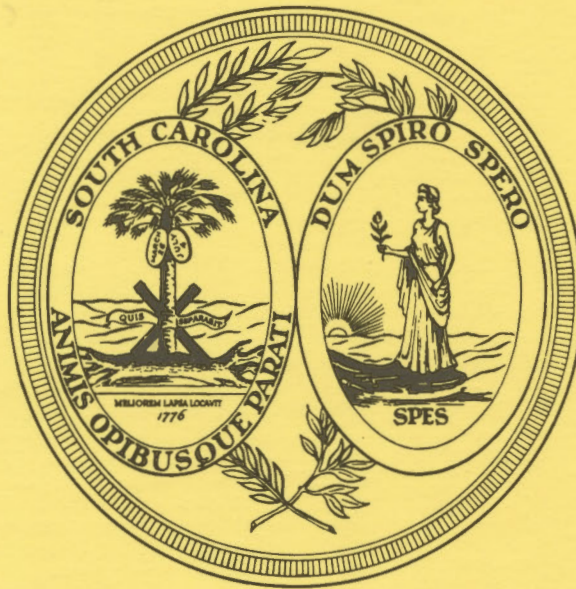


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SOUTH CAROLINA FORESTRY COMMISSION



ANNUAL REPORT 1990-1991

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STATE DOCUMENTS



S.C. Forestry Commission

Annual Report

1990-91

The Honorable Carroll A. Campbell, Governor, and to the General Assembly of South Carolina:

Pursuant to Section 48-23-90 of the Code of Laws of South Carolina 1976, as amended, which provides that the Commission shall "inquire into and make an annual report to the General Assembly upon the forest conditions in the state, with reference to the preservation of forests, the effect of the destruction of forests upon the general welfare of the State, and other matters pertaining to the subject of forestry and tree growth, including recommendations to the public generally as to reforestation". I have the honor to submit the report of the Commission for the period of July 1, 1990 to June 30, 1991.

Respectfully submitted,

STATE COMMISSION OF FORESTRY

Boris Hurlbutt, Chairman

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STATE COMMISSION OF FORESTRY

MEMBERS OF THE COMMISSION

Boris Hurlbutt, Chairman, Walterboro

William D. Baughman, Vice Chairman, Summerville

Henry F. Floyd, Pickens

Joel R. Thrift, Westminster

Joe P. Simpson, Lancaster

George E. Callaway, Manning

Grover F. Bowers, Jr., Estill

Charles E. Williams, Georgetown

Dr. Max Lennon, President, Clemson University, Clemson

Senator John Drummond, Chairman, Senate Fish, Game
and Forestry Committee

Rep. Thomas N. Rhoad, designee for Chairman House
Agriculture, Natural Resources & Environmental Affairs Committee

ADMINISTRATION

Robert J. Gould, State Forester and Secretary to the Commission

J. Hugh Ryan, Deputy State Forester

Dean Carson, Technical Assistant to State Forester

Judy J. Weston, Legislative Activities Coordinator

John M. Shirer, Assistant State Forester, Engineering Division

Wray E. Freeman, Assistant State Forester, Technical Programs Division

H. Gilbert Brown, Assistant State Forester, Administration Division

Marvin W. Spearman, Assistant State Forester, Field Operations Division

ADMINISTRATION DIVISION

The Division of Administration supports the Forestry Commission's employees and programs through policies and procedures relating to budgeting, accounting, personnel services, purchasing and data processing.

PERSONNEL SECTION

The Personnel Section administers personnel management programs and policies for the Forestry Commission. Major program areas are employee relations, classification and compensation, personnel and position records management, recruitment, employee benefits, affirmative action, and worker's compensation.

Workforce

The South Carolina Forestry Commission has a total of 614.55 authorized full time equivalent positions in 69 separate job classifications. Of these positions, 593.54 are funded by state appropriations. Additionally, there were 62 temporary positions funded through the Federal Emergency Management Agency (FEMA).

Personnel Turnover

An analysis of employee turnover data reveals that 57 employees left their jobs during the fiscal year. This was an increase of 5.6% over last year. There were 31 employees hired.

Affirmative Action

Affirmative Action has become a permanent part of the Commission's operation and was emphasized to supervisors through training sessions as well as by the State Forester. Our Affirmative Action Plan was revised and approved by the South Carolina Human Affairs Commission during the past fiscal year.

Insurance Benefits

Realignment of job duties within the Division permitted us to consolidate employee insurance benefit programs into one position. This enabled the agency to increase services to employees including claims assistance and development of a computerized insurance records system.

Employee Involvement Survey

The State Division of Human Resource Management conducted a comprehensive employee involvement survey during the year. Copies of the survey report were distributed to all employees.

PURCHASING SECTION

The Purchasing Section administers procurement operations and policies for the Forestry Commission. Major areas and responsibilities, in addition to the supervision of all purchasing activities, include equipment specification development, formal and informal bids, contract awards and administration, central warehouse operations, insurance operations, Federal Excess Property records and inventory management, and Minority Business Utilization.

Procurement

Purchases and leases are contracted for in accordance with the S. C. Consolidated Procurement Code by this Section and the S. C. Materials Management Office. The Purchasing Section was responsible for the supervision of over \$9 million in expenditures for goods and services during the fiscal year, including the issuance of 1,765 purchase orders.

Central Warehouse Operations

Approximately 485 items, supplies and repair parts are maintained in stock to supply needs of Commission field units. A total of 1,500 issues were made in 1990-91 from the Central Warehouse. Federal excess property and supplies are also maintained and issued through the Central Warehouse.

Insurance

The Commission's fleet of 424 vehicles are insured through the Insurance Reserve Fund. Building and personal property coverage amounts to \$13,810,010.00. Property damage claims recovered amounted to \$29,094.00. Vehicle liability claims paid by the Insurance Reserve Fund amounted to \$26,039.00.

Federal Excess Property

Over \$100,000.00 in equipment and supplies were obtained this year through the U.S. Forest Service federal excess property program for use in the Commission's fire control program and by rural fire departments. The Purchasing Section administers the acquisition and disposal of this property and maintains records on the \$3.8 million inventory that is now on loan to the Forestry Commission.

Minority Business Utilization

The Commission encourages utilization of minority vendors for equipment, supplies and services and submits a plan yearly to the Office of Small and Minority Business. Commission purchases to small and minority businesses amounted to \$49,925.00 in the past year.

DATA PROCESSING SECTION

The Data Processing Section oversees and directs the computer resources and needs of the Forestry Commission. The computer systems system currently include a Unisys mid-range computer, approximately 45 microcomputer workstations, 7 Apple Macintosh desktop publishing systems, several Personal Computers, and the printers, scanners, modems, and other peripheral devices appropriate for these computers.

Additionally, in the past year, equipment was purchased for the five District Offices impacted by Hurricane Hugo. This equipment will allow these offices to be outfitted with a total of 15 computers, along with the appropriate printers and communications devices to make direct connection to the Columbia computer system possible. Installation of this equipment and the associated training is ongoing. In addition to allowing general clerical duties to be carried out more efficiently, these computers will allow the Districts to get up-to-the-minute information about their budgets, equipment and supply inventories, and personnel records directly from Columbia without the need for costly phone calls.

Also, provisions have been made in the past year to allow direct access by the Columbia computer system to the National Weather Service computer. The forecast information from this machine can be retrieved from the Weather Service and printed directly to the printers in the District Offices. This speeds the delivery and accuracy of the forecasts, and reduces the necessity for radio traffic, an especially important factor during a busy fire season.

Repairs to the data communications equipment in the Columbia Central Warehouse accomplished during this year restored their computer capability. All of the 80186-based workstations in the Columbia Office were upgraded to more modern 80286-based technology to allow for faster processing of daily tasks, and to eliminate the obsolete technology which was formerly being used.

The computer system at the Manchester State Forest was also upgraded this year, allowing for faster processing speeds and more users. Included in this upgrade was provision for a total of four terminals, a new laser printer, and battery backup systems to protect this equipment from the power surges which plague Manchester. A PC-based mapping system was installed there as well, allowing for graphics-oriented data collection to be accomplished for better management of the forest. This system includes a large-format plotter device to print maps of the forest, and a digitizing tablet to precisely enter map data.

**S.C. FORESTRY COMMISSION
FINANCIAL STATEMENT
FISCAL YEAR 1990-91**

REVENUES:

GENERAL FUNDS

State Appropriations	17,160,978.00
B&C Board Alloc (Budget Cut)	<u>-269,999.00</u>

TOTAL GENERAL FUNDS

\$16,890,979.00

FEDERAL FUNDS

Federal Grants	1,899,537.77
FEMA/Hugo	6,565,528.80
FEMA Flood-Storm	680.25
Sand Hills State Forest	<u>403,485.03</u>

TOTAL FEDERAL FUNDS

\$8,869,231.85

EARMARKED FUNDS

Refund of Prior Yr. Expend.	-2.32
Refund of Prior Yr. Revenue	-150.00
Allocations from State Agency	211.40
Hunting & Fishing Licenses	19,827.50
Timber Sales	95,667.67
Insurance Claims	29,553.55
Investment Earnings	1,393.88
Land Rentals	120,148.68
Equipment Rentals	138.00
Fire Equipment/Bond Fund	500,000.00
Capital Proj. State Approp	141,140.00
Sale of Assets	14,575.90
Forest Products Assessments	<u>322,466.71</u>

TOTAL EARMARKED FUNDS

\$1,244,970.97

GRAND TOTAL REVENUES

\$27,005,181.82

EXPENDITURES:

Transferred to General Fund	1,048,196.95
Appropriation Lapse	317,283.69
State	16,573,695.31
Federal	9,617,467.91
Earmarked	<u>1,516,093.24</u>

TOTAL EXPENDITURES

\$29,072,737.10

*Expenditures exceeded revenues due to utilization of earmarked carried forward funds and federal accounts receivable.

ENGINEERING DIVISION

The Engineering Division is comprised of the Communications Section, Equipment/Central Shop Section, Training/Safety Section and Construction/Real Property Section. These sections assist in developing plans and gathering information which affect the present and future operations of the entire organization.

The Division provides support to the field and central offices through coordination of training programs and projects on both local and statewide levels. When needed, personnel from the Division provide assistance and service which ranges from labor to the technical adaptation and development of equipment and structures.

RADIO COMMUNICATIONS SECTION

The Forestry Commission radio system includes radio units in every fire suppression unit, transport, tower, ranger truck and overhead supervisor's vehicle. Base stations are located in the Columbia Office, district offices, and two state forests. All aircraft as well as contract aerial tankers are radio equipped.

Some of the upgrades to our communications systems this year include:

- Installation of radios by S.C. Forestry radio technicians in all tractors, transports and other vehicles used by FEMA to clean up the debris left by Hurricane Hugo.
- Added a remote to the base station in Manchester State Forest.
- Added base station radios to several county offices.
- Moved Orangeburg District Office (phone and radio equipment) from Berry Street to new location on Henley Street.
- Upgraded radio system at Black River Tower so it could be used as a dispatching site.

EQUIPMENT SECTION

The equipment section was established July 1991 in the Engineering Division and the section will be responsible for development and implementation of statewide programs concerning use, design and maintenance of specialized forest fire control and forestry equipment.

The section will also be responsible for providing technical assistance and advice to district repair shops, developing specifications for all forestry equipment and motor vehicle fleet and developing a statewide equipment inspection program and arrange training for all field mechanics.

All regular and specialized fire control equipment is modified and processed for field use at the Commission's central repair shop in Columbia. The central repair shop personnel made numerous repairs to Forestry Commission vehicles and equipment and manufactured many fire control, forest management and nursery items. The following list is some of the major accomplishments performed by the central repair shop.

- Provide maintenance assistance to the district repair shops.
- Constructed V-blades for JD450 tractors.
- Processed new motor vehicle equipment.
- Assisted with seedling distribution using two(2) refrigerated semi-vans.
- Rebuilt tandem axle lowboy trailer.
- Fabricated brush guards on blade of JD750s
- Built and modified truck bed for the helicopter support program.
- Painted twenty one (21) vehicles for districts.
- Installed water protection system on JD750

Equipment Purchased and Replaced

PURCHASED:

- Nine (9) tandem axle truck tractors
- Eleven (11) 200 gallon pumpers for ranger pickups.
- Seven (7) Evans flat bed trailers
- Two (2) Load King (drop deck) lowboy trailers
- Two (2) Fontaine flat bed trailers
- Four(4) Cherokee jeeps

REPLACED:

- Fourteen (14) half ton and three (3) quarter ton ranger pickups
- Three (3) transports with single axle truck tractors
- Three (3) fireline lift plows
- Eight (8) fireline wheel plows
- One (1) single axle truck with dump body (Manchester State Forest)
- Two (2) 1/2 ton pickup trucks (Sand Hills State Forest)

Training Arranged by the Section

- 22 mechanics attended a two day session on hydraulic brakes.
- 10 mechanics attended an air brake school sponsored by NAPA.
- 3 mechanics attended an anti-brake school sponsored by DMVM.
- All mechanics attended a 1/2 day training session on evaluating the undercarriage system on crawler tractors.
- Operators who received new equipment attended an orientation and preventive maintenance training session.

Construction And Real Property

The Construction and Real Property Section of the Engineering Division is responsible for development and implementation of both short and long range permanent improvement plans for the entire organization. More specifically the section assists field offices and other divisions with detail planning, coordination and execution of construction, renovation and major repair projects. This assistance includes development of plans and specifications, approval by other agencies, budget management, materials purchasing and coordination of labor throughout the project.

Real property transactions and records for the purchase, transfer or sale, as well as leases and easements are coordinated by the section.

The mail, supply and cleaning services of the central office were moved to the section early in 1991. Through review and redefinition of assignments, the agency is attempting to improve the efficiency and effectiveness of these services as they relate to both the field and central offices.

The accomplishments of the section depend heavily on the contributions of skills and labor by field and central office personnel. The following list reflects their major achievements:

Construction

- Construction of a helicopter landing strip and pad at Columbia Complex.
- Construction started on a picnic shelter for Harbison State Forest by Columbia personnel.
- Interior work on the Taylor Nursery repair shop is nearly complete. This work has been done by nursery personnel with assistance from the Columbia staff.

Renovation and Repairs

- One room of the Spartanburg seedling facility was converted to a ranger's office by Spartanburg District and county personnel.
- Deficiencies at the Florence and Kingstree district seedling coolers were corrected by district personnel.
- Storm damage to the roof of the Coastal Nursery Office resulted in the roof replacement by nursery and Columbia staff personnel.

Planning

- Developed a five (5) year plan for permanent improvements reflecting broad goals for construction and renovations.

-Developed an annual plan for permanent improvements with specific projects and plans for construction, renovations and repairs.

-Contracted with an architect to provide consulting services on projects. Services provided this year were, plans for renovations in the Insect & Disease annex, a study and plans to correct water problems at Taylor Nursery and a feasibility study for the expansion of the central office.

-Completed preliminary plans for seed extractory facility at Niederhof Seed Orchard.

Property Transactions

-Easements granted to S. C. Department of Transportation at Bonneau Tower and Dillon Tower.

-Doublewide modular office (FEMA office) at central headquarters acquired by purchase..

-Completed property transfer at Adams Run Tower to obtain a Quit Claim Deed.

TRAINING AND SPECIAL PROJECTS SECTION

Each year a training schedule is prepared in cooperation with all program managers. This helps to set priorities and to ensure that needed training is scheduled, planned and presented in a logical order.

Standard training programs have been prepared for new employees in all job areas. These programs will ensure that all subjects are covered in a logical order and will help the new employee reach the standards for the assigned job as soon as practical. Programs are in use for foresters, district rangers, county rangers, state forest and district forest technicians, fire tower operators, wardens, mechanics, radio technicians, staff assistants/clerks and nurserymen/seed orchard managers.

A training library including manuals, films, tapes, slides, lesson plans, etc., is maintained.

Most training is done using trained Forestry Commission personnel as instructors. Other schools and instructors are utilized when possible. These sources include the U. S. Forest Service, Clemson University, University of South Carolina, South Carolina Human Resource Management Training Division, industry representatives, the South Carolina Criminal Justice Academy and others.

TRAINING HIGHLIGHTS FOR 1990-91

Basic Fire Fighting School, five days: Conducted for 47 new personnel with forest fire control responsibilities.

Basic Fire Fighting School for Cooperators: Conducted two schools for 37 employees of cooperating forest industries.

Prescribed Burning School, two days: attended by 36 people.

Basic Law Enforcement: Five people attended the two-week special basic course at the S. C. Criminal Justice Academy and were commissioned as forest law enforcement officers.

Law Enforcement In-Service, two days: Conducted at the S. C. Criminal Justice Academy for 77 persons who hold law enforcement commissions.

Rural Fire Department Training: Conducted by the Forestry Commission to train Rural Fire Department personnel, and presented to seven departments with 126 personnel receiving training.

Ranger Technician Training Program: Five Forestry Commission employees this year completed the forest technician training program designed for county rangers. This program normally requires three years of study, on-the-job training and experience to complete. These employees will assist foresters in providing services such as timber marking, prescribed burning and reforestation assistance to woodland owners in the counties where they are assigned.

Forest Warden Training Program: The Forestry Commission initiated a training program to prepare wardens to assist foresters and rangers in forest technician activities or one of several trade areas such as carpentry, plumbing or welding. The course requires approximately two years of study, on-the-job training and experience. Forty two wardens are enrolled.

SAFETY SECTION

Ten safety committees, representing all areas of the agency, are responsible for safety awareness by all personnel and locating and correcting safety hazards in their area.

Defensive Driving Courses: Three courses were conducted for 78 employees in an effort to maintain the safety of Forestry Commission personnel.

First Responder Refresher Courses, 1 day. Three first aid courses were conducted for 71 Forestry Commission personnel to provide trained personnel in all parts of the state.

CPR Training: 55 employees successfully completed a 4-hour Cardiopulmonary Resuscitation Course.

Red Cross First Aid Course: Classes were conducted for 36 Forestry Commission personnel in basic first aid training.

Commercial Driver's License Training: Conducted by Forestry Commission instructors to prepare Forestry Commission truck drivers to qualify for licensing by the S. C. Department of Highways and Public Transportation.

OSHA Courtesy Inspections: Arranged for OSHA courtesy inspections at Walterboro District, Niederhof Seed Orchard and Central Repair Shop by S. C. Department of Labor Inspectors. All discrepancies have been corrected at these locations.

TECHNICAL PROGRAMS DIVISION

The Technical Programs Division provides operational and technical staff direction to the Forestry Commission field organization in each of the major program areas of forest management, nurseries and tree improvement, forest insects and diseases, forest fire protection, and information and education.

FOREST MANAGEMENT SECTION

The Forest Management Section assists South Carolina citizens with management and development of the forest resources of the state. Programs include Woodland Management Assistance, Reforestation Assistance, Forestry Services, Forest Products Utilization and Marketing Assistance, Resource Conservation and Development, and Watersheds. These programs assist owners in growing more timber, aid industries in more efficient utilization of the timber resource, and foster conservation of the forest resource.

There are 12.2 million acres of commercial forest land in South Carolina. According to the 1986 U.S. Forest Service Survey, 68% of the land is owned by farmers and miscellaneous private owners. Forest industry owns approximately 22% with 10% in public ownership.

The Forest Management programs are designed to assist the non-industrial private landowner with multiple use management with the goal of closing the regeneration gap.

Forest Management Assistance

Professional foresters from the Forestry Commission provide forest management advice and assistance to landowners. The land is examined and a written forest management plan is prepared. Recommendations for management may include such silvicultural practices as forest protection, reforestation, harvesting, prescribed burning, wildlife habitat improvement, and recreation. This year 3,383 management plans were prepared for 301,306 acres.

Where practical, the landowner is referred to consulting or industrial foresters to assist in carrying out the management recommendations. This year 479 cases were referred to consulting foresters and 209 cases referred to industrial foresters.

Commission foresters provide timber marking services to landowners on a limited basis. This year 35 tracts were marked, with 1,604,305 board feet of sawtimber and 3,509 cords of pulpwood designated for harvesting.

South Carolina Forest Stewardship Program

The 1990 Farm Bill authorized the U.S. Secretary of Agriculture in consultation with the State Forester, to establish a Forest Stewardship Program to encourage the long-term stewardship of non-industrial private forest lands. This is to be accomplished by

assisting owners of such lands to more actively manage their forest and related resources by utilizing existing State, Federal, and private sector resource management and assistance programs. The bill also required the establishment of a State Forest Stewardship Coordinating Committee which would address forestry related issues and provide recommendations to the State Forester on the implementation of the Forest Stewardship, Stewardship Incentives and Forest Legacy programs.

The South Carolina Forest Stewardship Coordinating Committee currently consists of representatives from the following agencies and organizations:

- S.C. Forestry Commission
- Clemson Extension Service
- USDA Forest Service
- USDA ASCS
- S.C. Society of Consulting Foresters
- S.C. Association of Conservation Districts
- S.C. Wildlife Federation
- S.C. Chapter of the Sierra Club
- S.C. Dept. of Parks, Recreation, & Tourism
- S.C. Farm Bureau
- Palmetto Conservation Foundation
- S.C. Association of Counties
- Division of Local Government
- Private Landowners
- S.C. Wildlife & Marine Resources Dept.
- USDA Soil Conservation Service
- S.C. Tree Farm Committee
- S.C. Land Resources Commission
- Association of Consulting Foresters
- S.C. Forestry Association
- S.C. Nature Conservancy
- Forest Industry (Westvaco)
- S.C. Dept. of Education
- Governor's Office, DEAN
- National Audubon Society
- Central Midlands Regional Planning Council
- S.C. Environmental Education Association

The South Carolina Forest Stewardship Program is being developed to maximize the delivery of information and services to landowners, minimize duplication of effort and dilution of limited local, state and federal resources, and complement private sector services. Landowners will have stewardship (multi-resource) management plans developed for their property addressing their management objectives. These stewardship management plans will be developed cooperatively by various resource agencies and organizations — mainly the South Carolina Wildlife and Marine Resources Department, the U.S. Soil Conservation Service, Clemson Extension Service, consulting foresters, forest industry foresters, and the South Carolina Forestry Commission.

This program will also provide landowners with technical assistance in carrying out their stewardship management plan, access to workshops, educational seminars, publi-

cations, and information on resources available from the private sector (consulting firms, industry landowner assistance programs, contractors, etc.). Through a companion program, the Stewardship Incentives Program (SIP), cost-share assistance will be available to assist in the installation of approved conservation practices.

Landowners, who are exemplary in meeting the requirements of good stewardship management on their property, will be recognized by having their property certified as a Stewardship Forest. Certification will consist of being able to display the Stewardship Forest sign on their property, a formal certificate, and a plaque recognizing them as being good stewards of the land.

STATE PROGRAM

Forest Renewal Program (FRP)

The South Carolina legislature, recognizing the South's unique potential to supply the nation's continuing demand for forest products, established the Forest Renewal Program (FRP) in 1981. The program provides financial cost sharing assistance to private woodland owners in reforesting cut-over and understocked forest land. With the support of forest industry, the program is jointly funded through an assessment of those industries producing primary wood products and an appropriation by the state legislature.

This program and the federal programs provide up to 50% reimbursement to carry out approved forestry practices for reforestation of woodlands or forest improvement practices.

In 1982 the program was funded for the first time by a \$100,000 state appropriation. This permitted an assessment of \$400,000 from forest industry, and created a \$500,000 Forest Renewal Fund.

The program was funded at the same level for 1990-91.

FEDERAL PROGRAMS

These cost share programs are administered by the U.S. Agricultural Stabilization and Conservation Service (ASCS). The Forestry Commission provides technical forestry assistance to landowners and approves qualifying acreage.

Forestry Incentive Program (FIP)

Since 1974, \$16,693,542 have been allocated to South Carolina landowners under FIP.

FOREST MANAGEMENT ASSISTANCE - 1990-91

	Woodland Cost Share	Non-Cost Share	Acres Examined	Tracts Marked	Volume Marked (BD.Ft.)	(Cords)	Total Exams. 1941-June90
Abbeville	27	27	3717				1845
Aiken	39	31	7345	2	49164	138	3418
Allendale	75	3	4073				1068
Anderson	14	59	6774	1		640	3365
Bamberg	46	8	2842				1755
Barnwell	69	7	3585				1654
Beaufort	6	8	523				523
Berkeley	18	106	41687				1020
Calhoun	45	36	8835				2243
Charleston	22	30	7344				725
Cherokee	8	11	1758	2	74792	259	1412
Chester	45	43	5363				1621
Chesterfield	71	1	2565				3398
Clarendon	60	103	15107				1920
Colleton	34	60	4472				2819
Darlington	25	48	6036				2228
Dillon	19	32	3044				1719
Dorchester	35	57	6312				1171
Edgefield	36	16	3500				1177
Fairfield	39	45	6032				2032
Florence	37	74	9438				3402
Georgetown	7	31	5226				793
Greenville	8	53	3093	8	481705	302	2048
Greenwood	44	48	9524				2217
Hampton	40	27	4262				2159
Horry	35	45	4529				2747
Jasper	11	17	2428				769
Kershaw	53	36	12579				2461
Lancaster	56	57	10409				2366
Laurens	16	29	2823				2138
Lee	15	15	2258				1521
Lexington	27	12	2116	1	69000	134	2512
Marion	12	11	1722				932
Marlboro	25	33	2685				1469
McCormick	25	19	2499	1		289	1549
Newberry	101	44	7397				2645
Oconee	12	73	4798	9	476486	541	2430
Orangeburg	155	40	12818				4774
Pickens	4	38	2013	6	363438	171	2086
Richland	23	23	4394	1	13245	78	3058
Saluda	44	15	2372				1886
Spartanburg	7	13	1575	1	47725	49	1942
Sumter	68	78	15342				2259
Union	11	16	1826				1000
Williamsburg	50	117	28377	1	28750	192	3083
York	9	60	3889	2		716	2808
State Total	1628	1755	301306	35	1604305	3509	94167

Agricultural Conservation Program (ACP)

Agricultural Conservation Program funds are also available to landowners for reforestation.

Conservation Reserve Program (CRP)

The Conservation Reserve Program, authorized under the 1985 Farm Bill, is a voluntary program to take highly erodible cropland out of production. Participants receive annual payments for ten years and one half the initial cost to establish a conservation practice which includes trees as one option. The program began with crop year 1986 and was renewed with the passage of the 1990 Farm Bill. Ten signups have been held with 217,576 acres approved for trees; 2,806 acres were planted this year.

Hurricane Hugo Reforestation Project

Soon after Hugo struck, the S.C. Hugo Reforestation Committee was formed to address the reforestation of 680,000 acres of non-industrial private forestland devastated by the hurricane. A free reforestation examination of damaged forestland was offered to landowners via the GIMME GREEN campaign. Through the efforts of the South Carolina Congressional Delegation, the Forestry Commission received \$5.0 million of federal funding to promote reforestation and provide technical assistance to affected landowners.

Approximately 1,129 owners of 339,977 acres of forestland have thus far requested the examination. Due to this increased workload, the Commission contracted with 24 consulting forester firms to perform this work in addition to Commission foresters.

The South Carolina Congressional Delegation also secured \$3.0 million to fund the Hugo Incentive Program (HIP). Administered by the Commission, HIP provides 75% cost-share reforestation assistance to landowners whose forestlands were destroyed. Unfortunately, the demand for this money greatly exceeds \$3.0 million. Thus far over 1100 individuals representing a need in excess of \$16.0 million have requested HIP assistance.

1990-91					
STATEWIDE ACCOMPLISHMENTS ALL COST SHARE PROGRAMS					
Program	No. of Landowners	Planted Acres	Natural Regeneration Acres	TSI Acres	Cost Share Payments
FRP	103	5,224	13	349	\$455,299
FIP	382	12,156	111	745	\$1,108,279
ACP	579	12,760	139	2,366	\$903,136
CRP	125	2,806	0	335	\$98,978
HIP	38	1,481	18	58	\$145,107
TOTAL	1,227	34,427	281	3,853	\$2,710,799

Forest Services

Through this program the Commission provides landowners forestry services to assist in afforestation, reforestation, and to maximize production from their woodland. For these services the landowner is charged the cost of all services performed.

These services were available to landowners during the year:

- Firebreak Plowing—performed by Forestry Commission employees using agency equipment for \$35 per hour.
- Prescribed Burning—performed by Forestry Commission employees using agency equipment for \$4 per acre for understory and \$6 per acre for site preparation - minimum fee of \$50.00.
- Prescribed Burning Standby—an agency unit and employee on standby at burning site while landowner performs burning under an approved plan for \$10 per hour - minimum fee of \$50.00.
- Equipment Rental Program— agency owned tree planters, bedding plows, drum choppers, spot guns and Christmas tree trimmers made available to private landowners at rates from \$3 to \$15 per acre.

FOREST SERVICES ACCOMPLISHMENTS

Service	# Tracts	Units of Measure	Receipts
Firebreak Plowing	426	863 miles	\$45,338
Prescribed Burning	81	4,958 acres	\$25,625
Prescribed Burning Standby	41	3,579 acres	\$5,191
Equipment Rental	39	817 acres	\$9,331
Water Bar Construction	23	1,270 bars	\$15,061
TOTAL DOLLARS			\$100,546

Economic Development: Forest Products

With oil-overcharge funds from the Governor's office, the Forestry Commission established an incentive payment program to fuel-chip suppliers to encourage utilization of Hugo damaged timber. This indirectly benefits the landowner by motivating suppliers to utilize less desirable tracts for fuel chips, which also will reduce the cost of site preparation for reforestation.

Marketing Project Efforts & Accomplishments:

Cooperated with the Development Board in successful recruitment of a new furniture plant for South Carolina. Specialized Banking Furniture International an English Company, has located in Newberry with employment potential up to 200 workers.

Assisted a British Columbia firm with Saudi Arabian connections in securing southern yellow pine sources suitable for its Saudi pallet operations. Trial shipments have begun. This project was cooperatively developed with the State Ports Authority.

Continued to encourage greater use of southern species, particularly southern yellow pine, among millwork manufacturers. Assisted two manufacturers, Felux and Southern Manufacturing in locating suitable kiln dried stock.

Continued to cooperate closely with State Development Board, Agriculture Department, and Clemson to encourage expansion of value-added forest product manufacturing in South Carolina. Our focus is particularly aimed toward furniture, cabinet, millwork, and engineered wood systems.

Best Management Practices (BMP's) Monitoring Program

A BMP monitoring program was begun in cooperation with the South Carolina Forestry Association. One hundred logging sites were checked for compliance by a monitoring team.

The results showed 85 percent of the sites meet minimum or better level of compliance. Areas showing a need for improvement are wet sites and streamside management zones.

The survey shows a need for training and educational programs for loggers and non-industrial landowners.

Resource Conservation and Development Project: Ninety Six District

The Ninety Six District Resource Conservation and Development Project (RC&D) contains six counties in the S.C. Forestry Commission's Newberry District. These are Abbeville, Edgefield, Greenwood, Laurens, McCormick, and Saluda Counties. The RC&D Committee was initiated and sponsored by private citizens, city and county governments, and Soil and Water Conservation Districts from the six counties. Federal, state and local governments, industry representatives, and others work together on projects that the local citizens consider necessary to develop a better way of life for the people in the project area. These projects are accomplished by developing and conserving the human and natural resources of the area.

The RC&D Forestry Committee's objective is to promote optimum utilization and conservation of the forest resources for the economic well being of the area. Three goals identified by the Forestry Committee are: 1) increase economic development and employment by using forest resources in traditional and nontraditional ways; 2) increase productivity of forestland through improved forest management techniques; and 3) improve protection of the land and water resources by increasing public awareness of conservation issues.

Fiscal year 1990-91 proved to be another active period for the Ninety Six District RC&D Project. Some of the major accomplishments and activities for the year are outlined below.

Dry Hydrant Project

Annual Woodland Clinic

Alternative Forest Product Development Project

Integrated Management for Multiple Use

Urban Forestry Support

Resource Conservation and Development Project: Crossroads of History

The Crossroads of History Resource Conservation and Development Project consists of Cherokee, Chester, Fairfield, Lexington, Newberry, Richland, Union and York Counties.

The project does not fund a forester position, however, forestry assistance to the project is provided by foresters from the Newberry District.

Special Water Quality and Hydrologic Unit Projects

The Forestry Commission, in cooperation with Clemson Extension, Soil Conservation Service, Agricultural Conservation and Stabilization Service, South Carolina Department of Health and Environmental Control and South Carolina Land Resources Commission, helps to assist landowners in maintaining high levels of water quality in critical areas throughout the state. We currently are offering technical assistance in reforestation of cutover timber lands as well as water bar construction on logging roads and logging deck location and design.

During the current fiscal year, the Commission is providing technical assistance on the following projects:

- 1). Lake Bowen Water Quality Project
- 2). Bush River/Camping Creek Water Quality Project
- 3). Little Saluda/Clouds Creek Water Quality Project

NURSERIES SECTION

The Forestry Commission operated four forest tree nurseries for the production of seedlings for South Carolina landowners. This year 44,150,700 seedlings were grown and 29,297,000 were shipped.

South Carolina's wood using industries planted 43,172,000 seedlings on company lands. These consisted of 34,650,000 grown in the state by industry nurseries, 3,874,000 grown by Commission nurseries, while 4,648,000 were brought in by industry. A grand total of 102,384,439 seedlings were planted on 146,263 acres in the state during the year.

Phasing out Coastal Nursery

As a result of economic conditions and a decrease in the production of forest tree seedlings, Coastal Nursery will no longer produce forest tree seedlings. This facility will, however, continue to act as a seedling distribution center for seedlings produced at other nursery operations. The Coastal Nursery facility will convert over time to a hardwood orchard and seed production area and be known as Coastal Orchard.

Research

The Forestry Commission continues cooperative research projects with Clemson University, Auburn University and the U. S. Forest Service. The Commission also maintains memberships in the North Carolina State University Pine Tree Improvement Coop., the N.C. State Hardwood Research Cooperative, and the Auburn University Southern Forest Nursery Management Cooperative.

Containerized Seedlings

Specialized needs existed for seedlings other than bare root stock grown at Commission nurseries. To meet these needs, a double bay greenhouse was constructed in 1982 at Creech Seed Orchard, Wedgefield. Increased demand in 1990 prompted the expansion of a third bay. Containerized seedlings, rooted cuttings and progeny test materials are grown at this greenhouse. The greenhouse and associated slathouses give the Commission the capacity to grow one million containerized seedlings annually.

Forest Tree Seed Collection Program

Each year the Forestry Commission collects or purchases pine cones and other forest tree seed for seedling production. During the past year, walnut, baldcypress, red cedar, yellow poplar, ash, maple, longleaf, loblolly and white pine seed were purchased. As a result of Hugo's destruction to Creech Seed Orchard, genetically improved coastal and piedmont loblolly pine seed will be purchased as demand dictates. Additional seed purchases will be necessary until second generation orchards begin producing measurable amounts of seed.

STATE NURSERIES SEEDLING PRODUCTION BY SPECIES

BAREROOT SEEDLINGS

Improved Coastal Loblolly Pine	15,850,000
Improved Piedmont Loblolly Pine	20,250,000
Texas Loblolly	625,000
Longleaf Pine	3,875,000
Improved Slash Pine	50,000
Improved Virginia Pine	473,000
Improved White Pine (2-0)	677,000
Table Mountain Pine	30,000
Sand Pine	75,000
Shortleaf Pine	220,000
Baldcypress	69,000
Redcedar	380,000
Yellow Poplar	96,000
Improved Sycamore	26,000
Sweetgum	33,000
Black Walnut	51,000
Crepe Myrtle	1,000
Dogwood	14,000
Redbud	1,000
Bicolor Lespedeza	1,000,000
Sawtooth Oak	6,500
Miscellaneous	1,000

Total	43,803,500
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White Pine (1-0) Not For Sale	542,000
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CONTAINERIZED SEEDLINGS

(CREECH SEED ORCHARD)

Improved Piedmont Loblolly Pine	12,000
Improved Coastal Loblolly Pine	12,000
Improved Virginia Pine	5,200
Improved Longleaf Pine	254,000
Sawtooth Oak	8,000
Leyland Cypress	28,000
Carolina Sapphire	7,000
Clemson Greenspire	4,600
Deodar Cedar	0
Progeny Test Seedlings	16,400

Total	347,200
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Grand Total	44,150,700
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TREE SEEDLING DISTRIBUTION BY LANDOWNER CLASSIFICATION

A. Seedlings Planted in the State by Land Ownership:

Land Ownership	Percent of Total	Number Trees Planted
Private Ownership	40	41,099,370
Christmas Tree Growers	1	337,715
Forest Industry (Pulp & Paper)	50	50,754,314
Lumber		705,490
Forest Industry (Other Corp)	3	2,680,197
Schools		45,538
State Forest		338,500
Other State Land		351,650
"City, Town, County"		119,346
Federal Lands	6	5,841,180
Associations/Clubs		111,139
Total	100	102,384,439

B. Source of Seedlings Planted in the State

1. Nurseries in South Carolina

S. C. Forestry Commission (Includes Greenhouse)	29,297,000
Champion International	5,809,060
International Paper Company	23,292,781
Westvaco	20,261,000
Weyerhaeuser	15,328,598
Total	93,988,439

2. Nurseries Outside South Carolina

Bowater	1,882,000
Federal Paper Board	1,657,000
N. C. Forest Service	73,000
Union Camp	532,000
US Forest Service	3,652,000
Georgia Pacific	200,000
International Forest Tree Seed Company	400,000
Total	8,396,000

C. State Nursery Seedlings Shipped

Out-of-State	120,000
In-State	29,177,000

Seedling Survival

Ample rainfall for the spring and early summer of 1990 was the most limiting factor relating to the 5% decrease in survival statewide. A total of 434 survival checks were made using a row count or tenth acre plot method for determining survival. Geographically the northeastern section of the state exhibited the most serious drought conditions,, resulting in the lowest survival. A weighted analysis involving all survival checks was used to determine the statewide survival of 75%.

PLANTING SITES CHECKED BY PERCENT SURVIVAL (WEIGHTED)					
DISTRICT	0-49%	50-70%	71-100%	TOTAL PLANTINGS INSPECTED	WEIGHTED % SURVIVAL
CAMDEN	15	17	47	79	72
FLORENCE	28	14	60	102	65
KINGSTREE	2	5	15	22	80
NEWBERRY	5	23	98	126	76
ORANGEBURG	6	9	44	59	77
SPARTANBURG	4	15	45	64	78
WALTERBORO	2	7	37	46	74
	62	90	346	498	75

Total Seedlings and Acres Planted in South Carolina

1929-1991, By County

COUNTY	SEEDLINGS PLANTED 1990-91	GRAND TOTAL PLANTED TODATE 1929-91	ACRES PLANTED 1929 TO 6/30/91
ABBEVILLE	2111982	57943967	70990
AIKEN	3785140	202012568	230541
ALLENDALE	3472351	84504798	101993
ANDERSON	749809	48767503	56719
BAMBERG	1866616	55395125	70744
BARNWELL	2475805	14203284	144706
BEAUFORT	501641	267067986	33366
BERKELEY	4575680	108819534	133500
CALHOUN	622062	45790712	59753
CHARLESTON	1990495	41372824	53684
CHEROKEE	952356	31562475	37787
CHESTER	2011831	77396788	118548
CHESTERFIELD	1677668	137161583	161674
CLARENDON	2637701	59172947	71590
COLLETON	2727383	121497116	164645
DARLINGTON	308247	34477611	42879
DILLON	371536	26849910	30546
DORCHESTER	1740410	74831415	88494
EDGEFIELD	3626743	66169859	88030
FAIRFIELD	3305394	101669049	124405
FLORENCE	850301	31629662	38384
GEORGETOWN	3513146	124920402	152183
GREENVILLE	364515	27973357	32155
GREENWOOD	2429760	78523797	85728
HAMPTON	1859847	95535317	119139
HORRY	306359	72209510	82265
JASPER	1539106	90674287	104540
KERSHAW	2941846	177731355	206544
LANCASTER	3070184	70826794	88217
LAURENS	3347168	92701262	176680
LEE	2068515	33513862	42078
LEXINGTON	1400443	60285190	74178
MARION	1580500	32542222	39680
MARLBORO	517930	51039651	62295
MCCORMICK	2021372	46310127	61068
NEWBERRY	1914366	80920024	105007
OCONEE	581603	33403426	39071
ORANGEBURG	4067899	126269185	167130
PICKENS	372552	27153077	31536
RICHLAND	903594	65831824	78038
SALUDA	2892197	45150967	62856
SPARTANBURG	992862	56569741	65577
SUMTER	891274	63373751	72752
UNION	864258	69550485	87600
WILLIAMSBURG	7117149	89270883	119151
YORK	751027	56787288	67309
MULTIPLE COUNTIES	11367240	34864196	70908
TOTAL	102,037,863	3492,228,696	4,216,663
OUT-OF-STATE	346,576	76,582,517	495
GRAND TOTAL	102,384,439	3,568,811,213	4,217,158

Total Seedling Distribution by Counties: Species /Amount 1990-91

COUNTY	IMPROVED COASTAL LOBLOLLY PINE	IMPROVED PIEDMONT LOBLOLLY PINE	IMPROVED SLASH PINE	LONGLEAF PINE	SWEETGUM	SAWTOOTH OAK	YELLOW POPLAR	BAIRD- CYPRESS
ABBEVILLE	4,000	2,074,108	0	14,000	0	50	1,000	13,000
AIKEN	179,500	2,004,500	0	1,532,000	2,000	375	2,500	0
ALLENDALE	3,128,500	302,000	0	36,500	0	45	0	0
ANDERSON	1,000	707,806	1,000	500	0	185	4,000	1,000
BAMBERG	1,561,833	220,000	2,000	500	0	95	0	0
BARNWELL	2,055,729	274,500	1,500	133,500	0	0	500	0
BEAUFORT	481,000	0	500	180	0	95	0	1,000
BERKELEY	3,396,068	0	0	1,159,000	0	270	2,000	0
CALHOUN	556,525	1,500	0	26,000	4,000	285	4,000	1,000
CHARLESTON	1,092,905	0	2,500	856,500	1,000	225	1,000	1,500
CHEROKEE	1,000	929,000	0	0	0	100	1,500	0
CHESTER	0	2,007,805	0	0	0	0	0	0
CHESTERFIELD	91,000	1,181,300	1,500	333,000	0	320	2,500	6,000
CLARENDON	2,602,000	1,000	0	30,180	0	135	0	1,000
COLLETON	2,679,951	0	2,000	22,260	0	0	0	8,500
DARLINGTON	247,801	15,000	0	12,400	0	50	1,000	1,000
DILLON	286,000	0	0	73,500	0	0	0	0
DORCHESTER	1,688,821	500	500	31,500	0	45	1,000	1,000
EDGEFIELD	41,000	3,576,283	0	0	0	150	0	500
FAIRFIELD	124,000	3,171,490	0	0	0	540	0	0
FLORENCE	824,699	0	0	6,540	0	270	500	2,000
GEORGETOWN	3,453,610	0	500	48,000	0	0	0	5,000
GREENVILLE	1,500	305,545	0	1,500	0	910	3,000	2,000
GREENWOOD	27,000	2,391,558	0	0	0	90	0	0
HAMPTON	1,689,183	76,000	4,000	76,820	0	50	0	500
HORRY	282,000	0	500	5,000	500	185	0	500
JASPER	1,523,520	0	3,000	1,000	1,000	0	0	0
KERSHAW	444,635	1,760,383	0	695,975	0	825	2,500	1,500
LANCASTER	47,000	2,983,914	500	31,500	0	90	500	0
LAURENS	18,500	3,300,386	0	0	0	0	1,500	0
LEE	1,263,169	675,000	0	122,505	0	45	0	0
LEXINGTON	358,333	881,490	1,500	81,825	500	485	3,500	1,500
MARION	1,569,000	0	0	2,500	0	0	0	0
MARLBORO	240,666	163,000	0	105,990	0	0	0	0
MCCORMICK	0	2,016,597	0	0	0	275	0	0
NEWBERRY	0	1,905,896	0	500	0	640	0	0
OCONEE	0	389,400	500	1,000	0	245	2,500	1,000
ORANGEBURG	3,536,076	273,000	4,500	196,000	0	945	7,500	1,000
PICKENS	115,000	216,000	0	0	1,500	0	3,000	1,000
RICHLAND	537,495	323,110	500	15,590	0	545	6,000	1,500
SALUDA	0	2,879,056	0	0	0	95	1,000	500
SPARTANBURG	0	933,785	0	2,000	1,000	675	2,500	0
SUMTER	742,585	83,995	0	37,180	0	1,000	1,500	3,000
UNION	0	857,712	0	0	0	150	0	0
WILLIAMSBURG	7,026,739	0	0	65,000	0	140	2,500	500
YORK	0	704,090	0	0	0	45	4,000	500
MULTIPLE CO	5,071,265	5,278,130	3,000	570,425	500	740	9,500	6,000
OUT-OF-STATE	500	164,500	0	0	0	0	2,000	0
UNKNOWN	15,000	314,000	0	20,000	1,000	0	1,000	0
TOTAL	49,006,108	45,343,339	30,000	6,348,370	13,000	11,410	75,500	63,500

Total Seedling Distribution by Counties: Species/ Amount

1990-91 continued

BLACK WALNUT	SYCAMORE	IMPROVED WHITE PINE	DEODAR	IMPROVED VIRGINIA PINE	EASTERN RED CEDAR	SAPPHIRE	GREEN- SPIRE	LEYLAND CYPRESS	MISC. SPECIES	TOTAL
0	0	0	0	3,000	2,500	0	0	324	0	2,111,982
3,500	2,000	9,500	40	28,520	20,075	270	90	270	0	3,785,140
0	0	0	0	4,660	520	0	0	126	0	3,472,351
500	0	12,000	280	11,820	7,000	288	468	1,962	0	749,809
500	0	78,000	40	2,540	1,000	36	36	36	0	1,866,616
0	0	2,000	40	1,500	6,500	0	0	36	0	2,475,805
0	0	0	0	7,250	4,500	36	36	1,044	6,000	501,641
1,500	0	0	0	7,500	9,000	54	54	234	0	4,575,680
3,500	4,000	2,000	0	4,500	14,500	90	54	108	0	622,062
2,000	0	2,000	760	14,000	13,575	486	306	738	1,000	1,990,495
1,000	0	10,500	0	6,000	2,500	0	0	756	0	952,356
500	0	500	0	2,000	0	180	18	828	0	2,011,831
4,000	2,500	5,500	0	7,580	9,000	72	54	342	33,000	1,677,668
0	0	500	80	0	2,500	18	18	270	0	2,637,701
0	0	0	40	9,200	5,000	18	0	414	0	2,727,383
500	500	4,000	80	9,080	15,000	450	72	1,314	0	308,247
500	2,000	1,000	0	3,500	5,000	18	18	0	0	371,536
500	0	150	0	11,000	4,080	324	360	630	0	1,740,410
0	0	500	0	6,040	2,000	234	18	18	0	3,626,743
0	0	2,000	0	500	6,000	54	0	810	0	3,305,394
1,500	500	1,500	0	4,000	8,000	162	180	450	0	850,301
0	0	0	0	2,000	4,000	0	0	36	0	3,513,146
2,000	0	28,500	240	12,240	6,000	216	252	612	0	364,515
500	0	1,500	0	3,500	5,000	162	162	288	0	2,429,760
0	0	0	0	6,500	6,650	18	0	126	0	1,859,847
500	0	3,000	80	7,000	6,500	108	126	360	0	306,359
0	0	500	0	7,000	3,050	0	0	36	0	1,539,106
2,000	2,500	3,550	80	16,120	10,050	270	288	1,170	0	2,941,846
500	0	1,000	0	3,000	2,000	18	18	144	0	3,070,184
2,000	0	10,500	80	8,500	5,000	36	36	630	0	3,347,168
0	0	500	40	5,000	1,500	162	180	414	0	2,068,515
2,000	500	9,600	280	28,380	26,500	900	342	2,808	0	1,400,443
0	500	2,500	0	3,000	3,000	0	0	0	0	1,580,500
0	0	1,500	0	2,540	4,000	54	0	180	0	517,930
0	0	0	0	4,000	500	0	0	0	0	2,021,372
1,000	0	2,800	40	2,040	1,000	90	36	324	0	1,914,366
3,500	3,000	12,000	40	5,500	8,000	54	144	720	154,000	581,603
500	2,000	7,500	40	17,200	20,000	612	324	702	0	4,067,899
1,000	1,500	18,000	400	5,000	9,000	54	54	1,044	0	372,552
1,000	0	5,000	80	4,140	7,500	378	144	612	0	903,594
0	0	2,000	120	5,000	2,500	270	342	1,314	0	2,892,197
2,500	500	25,500	40	6,860	15,000	72	72	2,358	0	992,862
1,000	500	5,500	440	5,660	8,500	72	18	324	0	891,274
0	0	2,000	0	3,500	500	54	54	288	0	864,258
1,500	1,000	1,000	0	9,000	9,500	72	72	126	0	7,117,149
500	500	18,000	1,280	12,660	6,500	396	18	2,538	0	751,027
2,500	1,000	53,500	0	9,000	10,000	0	0	54	0	11,015,614
500	0	105,000	0	53,000	20,500	342	234	0	0	346,576
0	0	500	0	0	0	0	0	126	0	351,626
45,000	25,000	452,600	4,640	391,530	340,500	7,200	4,698	28,044	194,000	102,384,439

SEEDLING DISTRIBUTION 1927-1991

YEAR	TOTAL STATE NURSERIES	TOTAL ALL SOURCES	YEAR	TOTAL STATE NURSERIES	TOTAL ALL SOURCES
1928-29	142000	142000	1960-61	145609075	158330575
1929-30	148000	148000	1961-62	71892420	83844470
1930-31	986000	986000	1962-63	56191241	64201541
1931-32	976000	976000	1963-64	51445597	62423597
1932-33	996000	996000	1964-65	49009893	60683493
1933-34	1031000	1031000	1965-66	42310685	56529185
1934-35	7529000	7529000	1966-67	48575190	69597590
1935-36	23000000	23000000	1967-68	39970136	58812136
1936-37	22000000	22000000	1968-69	29529285	51453285
1937-38	11192000	11192000	1969-70	31415430	49202630
1938-39	10854000	10854000	1970-71	31939880	54540880
1939-40	12244000	12244000	1971-72	23677925	41357225
1940-41	21165423	21165423	1972-73	30977800	45239100
1941-42	10275037	10275037	1973-74	28443000	42305500
1942-43	4742010	4742010	1974-75	40081500	55996500
1943-44	5662608	5662608	1975-76	40664387	59063387
1944-45	1962600	1962600	1976-77	39795375	59238275
1945-46	6402255	6402255	1977-78	45734500	64380200
1946-47	1962600	1962600	1978-79	43009533	65936933
1947-48	11356990	11356990	1979-80	46374919	76206619
1948-49	30338775	30338775	1980-81	53512622	86419513
1949-50	29501955	29501955	1981-82	55727828	87793028
1950-51	20615315	20615315	1982-83	47798858	86265299
1951-52	16619000	19619000	1983-84	50169612	100394312
1952-53	22035850	32246298	1984-85	51635770	107717581
1953-54	36210100	42852314	1985-86	65464810	124381360
1954-55	35373025	45182255	1986-87	73554964	157522970
1955-56	34413550	42931755	1987-88	78787967	164094827
1956-57	55753600	69658736	1988-89	55051595	153450416
1957-58	60846200	93369084	1989-90	38355557	128475489
1958-59	123985000	166351000	1990-91	29297000	102384439
1959-60	147146365	187516418			
Total = 767,466,258 934,810,428			Total = 1,536,004,354 2,578,242,355		
			Grand Total 2,303,470,612 3,513,052,783		

Forest Tree Improvement

Loblolly pine breeding and testing at Commission orchards continues toward research goals and objectives. Some 35 genetic tests (88 ac) out of 95 (240 ac) have been established. In order to fulfill commitments and responsibilities to the tree improvement cooperatives all tests are to be established by the end of 1993. Flower stimulation techniques on trees are being implemented to promote pollen and flowers in order to meet research objectives and time schedules. Results of research efforts will determine parentage for third and future generation orchards.

Second generation loblolly orchards were established between 1984 and 1989 with some blocks now entering their sixth growing season. Seed production will soon be operational as each year's crop improves. Inspections for seed certification through the S.C. Department of Seed Certification, Clemson University have been completed. In addition to loblolly pine, other orchards and seed production areas of longleaf, slash, white pine, and various species of hardwood are being developed to meet wildlife and commercial timber needs.

SEED ORCHARDS	
CREECH SEED ORCHARD	
	ACRES
COASTAL LOBLOLLY (DISEASE RESISTANT)	5.0
PIEDMONT LOBLOLLY (1ST GENERATION)	40.0
PIEDMONT LOBLOLLY (DISEASE RESISTANT)	5.0
SC SLASH (1ST GENERATION)	17.0
LONGLEAF (1ST GENERATION)	12.0
VIRGINIA PINE (1ST GENERATION)	1.0
COASTAL LOBLOLLY (2ND GENERATION)	10.2
PIEDMONT LOBLOLLY (2ND GENERATION)	13.4
VIRGINIA PINE (ADVANCED)	3.0
TOTAL	106.6
GREEN SAVANNAH SEED ORCHARD	
COASTAL LOBLOLLY (1.5 GENERATION)	39.0
TOTAL	39.0
NIEDERHOF SEED ORCHARD	
COASTAL LOBLOLLY (2ND GENERATION)	204.0
PIEDMONT LOBLOLLY (2ND GENERATION)	118.0
LONGLEAF PINE (ADVANCED)	30.0
SC SLASH (ADVANCED)	3.0
SAWTOOTH OAK (SEED PRODUCTION)	2.0
TOTAL	357.0
COASTAL SEED ORCHARD	
SYCAMORE (SEED PRODUCTION)	7.0
SWEETGUM (SEED PRODUCTION)	7.0
TOTAL	14.0
GRAND TOTAL SEED ORCHARD ACRES	516.6

Additional longleaf, swamp chestnut oak, willow oak, white oak, northern red oak, southern red oak, red maple and green ash seed production areas are being developed at the above facilities.

Hunting and Fishing - Niederhof Seed Orchard

Opening Niederhof Seed Orchard to controlled hunting and fishing continues the Forestry Commission's concept of multiple use management of state owned lands. Hunting and fishing rules, regulations and guidelines have been adopted and are being administered by the Forestry Commission

The following schedule relates to all wildlife activities.

Species	Season	Hunt Days	Hours	Restrictions	Fee
Deer-	18-Aug 29-Dec	Saturday	Dawn-9 AM 3PM-Sunset	Still Hunt	\$10.00
Quail-	1-Jan 26-Feb	Saturday	Dawn Sunset	Max 3 Hunters Per Party	\$10.00
Turkey-	16-Mar 27-Apr	Saturday	Dawn Sunset	Stalking	\$10.00
Rabbit-	2-Jan 27-Feb	Wednesday	Dawn Sunset	No Dogs	\$2.25
Squirrel-	5-Jan 23-Feb	Saturday	Dawn Sunset	No Dogs	\$2.25
Dove-	In Season	Days Announced	Noon Sunset		\$2.25
Game Fish-	2-Jan 14-Aug	Saturday	Dawn Sunset	No Gasoline Motors	\$2.25

PERMITS ISSUED AND REVENUE RECEIVED

	Number of Participants	Number of Use Days	Number Harvest	Revenue
Deer	96	8	72	\$960
Quail	11	5	25	\$110
Turkey	29	12	3	\$290
Fish	121	24		\$242
Totals	257	49	100	\$1602

“(Includes “”gratis”” permits issued)”

“(No applicants for rabbit, squirrel, or dove)”

“Cropland at Niederhof not immediately needed for orchard expansion is utilized as set aside land with allotment payments through the ASCS. Fiscal year payment amounted to \$9,672.41. Jasper County receives 25% of other revenue generated at this facility.

INSECT AND DISEASE SECTION

The Insect and Disease Section in cooperation with the State Division of Plant Industry and the U.S. Forest Service maintains a program to detect, evaluate, and suppress forest pests. Through cooperative agreements, these agencies make their technical assistance and advice available to the Forestry Commission.

The current forest pest detection and reporting system involves the reporting by field foresters of forest pests that are causing abnormal losses, require control action, or which may present new problems. Aerial surveys are made periodically for specific pests to determine occurrence and the need for suppression action.

MAJOR INSECT PROBLEMS

Southern Pine Beetle

Major infestations of southern pine beetle mixed with Ips beetle began to occur in May. A bark beetle outbreak was declared at this point. This allowed the agency to use unspent funds in a prior federal beetle suppression grant. During Fiscal Year 90-91, 18,198 beetle spots were detected by aerial survey. Those spots contained 2,140,238 trees with a volume of 27,165 cords and 166,464,304 board feet of pine timber. This timber had a green stumpage value of \$25,827,299.

In August and September 100% aerial surveys were made and affected landowners contacted. This outbreak area included all or parts of the 23 counties damaged by Hurricane Hugo. Outside of the Hugo area very little bark beetle activity was noted.

By December 1990 most of these bark beetle spots had collapsed. We believe that three things contributed to this outbreak: 1. There was a very large population of Ips beetles which attacked green trees when they had depleted the food base of broken and windthrown timber; 2. A summer drought stressed the trees; and 3. Hurricane Hugo did a lot of damage to root systems of trees in its path. This damage was not apparent since the roots are underground, but was at least as severe as the damage to the tops of the trees.

The Forestry Commission is cooperating with the U.S. Forest Service and several universities in evaluating alternative strategies for SPB control. Most methods being evaluated use pheromonal attractants or repellants to try to disrupt beetle population increases.

Southern pine beetle trapping data from this spring indicate that beetle population levels will decrease in the piedmont. Since this monitoring, a minor beetle outbreak began in upper Richland, western Fairfield, and eastern Newberry Counties in the Piedmont; and in Charleston, Colleton and Dorchester Counties in the Coastal Plains.

MAJOR DISEASE PROBLEMS

Oak Wilt

Oak wilt disease has been identified in Chesterfield, Kershaw, Lancaster, Lee, and Richland Counties. It appears to be static and causing losses only to low value oaks. Since there is potential for loss of valuable trees, including shade trees, periodic surveys are made to evaluate the spread.

Dutch Elm Disease

Dutch Elm disease has been confirmed in Aiken, Anderson, Cherokee, Chester, Chesterfield, Edgefield, Fairfield, Greenville, Greenwood, Kershaw, Lancaster, Laurens, Lexington, Marlboro, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg, and York Counties. It is expected to gradually spread through the state because the primary agent of spread, the smaller European elm bark beetle, occurs statewide.

Mycorrhizal Inoculation

A project was continued at Creech Seed Orchard this year to inoculate containerized longleaf seedlings with the mycorrhizal fungus *Pisolithus tinctorius* (P.t.). 300,000 longleaf and 10,000 loblolly pine seedlings were inoculated with mycorrhizae.

An experiment was installed at Taylor Nursery in 1989 to inoculate bare root longleaf with mycorrhizal spores. These seedlings were lifted and all found to have adequate mycorrhizae. Another inoculation was made on loblolly this spring to evaluate the efficacy of spore inoculation vs mycelial inoculation.

Dogwood Anthracnose

In 1988 a new anthracnose disease of dogwood was noted for the first time in South Carolina. This disease is caused by the fungus in the genus *Discula*. Symptoms include foliage blighting, canker formation and progressive deterioration. Infected trees usually are killed by the fungus in 2-3 years. At this time infected trees have been found in Anderson, Greenville, Laurens, Oconee, Pickens, and Spartanburg Counties. As part of a southwide effort, the Forestry Commission has established 19 permanent plots in the counties known to harbor infections of the fungus. The dogwoods in those plots will be monitored annually to determine the rate of spread of this potentially devastating disease. Second year USFS funding was recently approved for this project.

Integrated Pest Management

The Forestry Commission, Clemson University, and the U.S. Forest Service began

an integrated pest management demonstration project in South Carolina in 1982. During the first phase of this project, the Commission acquired a portable sawmill. The mill is being used to demonstrate the feasibility of salvaging timber damaged by Hugo into lumber on the site. During Fiscal Year 90-91 the mill was leased by 19 landowners and used to cut approximately 53,780 board feet of pine timber. The mill was also used at several SCFC locations to process timber from state lands. The majority of this timber was salvaged from the Hugo damage.

Miscellaneous Insect and Disease Checks

Commission foresters made approximately 1,606 field checks of insect and disease problems and made recommendations for prevention and control. Other inquiries were handled by telephone, mail, and personal contact.

Insect and Disease Laboratory

During Fiscal Year 90-91 the Insect and Disease Laboratory processed 109 samples. These were submitted for analysis by Commission employees and private individuals. Recommendations for control of various pests identified were given where needed. The lab is now equipped with 100% state property and has the capability to analyze any forest insect or disease problem as well as problems caused by nematodes and other major loss agents.

FOREST FIRE PROTECTION SECTION

The South Carolina Forestry Commission is charged by state law with the responsibility for protecting all state and privately owned woodland from wildfire. At present, there are 12,558,258 acres of woodland and adjoining non-forest lands under Forestry Commission protection. Approximately 10% of this total area is non-forest land. The U.S. Forest Service protects 576,518 acres of National Forest, and 336,746 acres of woodland is owned and protected by other federal agencies.

The fuel beds that were created by Hurricane Hugo continued to present a serious fire threat to life and property on 4.4 million acres in the Hugo area. Favorable weather conditions and the continued assistance and support from FEMA and the U.S. Forest Service contributed to holding fire losses down in this area. The Phase II Plan submitted to FEMA for continued federal assistance was approved and funded for one additional year. Over 4,000 miles of fuel breaks have been contracted to protect lives and property in the Hugo area. The increased potential threat from wildland fires will remain for several years in the Hugo area.

A formal agreement between the South Carolina Forestry Commission and the U.S. Forest Service provides for mutual aid in regard to fire detection and suppression along National Forest boundaries. A similar cooperative agreement provides mutual aid for the U.S. Corps of Engineers on their lands in the Savannah River Basin.

Southeastern States Forest Fire Compact Commission

The 1954 General Assembly passed legislation enabling South Carolina to join with nine (9) other southeastern states to form a Forest Fire Compact Commission. Other states belonging to the commission are: Alabama, Georgia, Florida, Kentucky, North Carolina, Mississippi, West Virginia, Virginia, and Tennessee. Leadership of each local state Commission is composed of a Compact Administrator (the State Forester), and a four-member Advisory Committee. The Compact Administrator and Advisory Committee for South Carolina are: Robert J. Gould, State Forester; Representative Marion P. Carnell, Ware Shoals; Mr. Archer Smith, Eastover; Senator, (vacant); and Mr. Laverne Fenters, Garden City.

The thirty-seventh annual meeting of the Southeastern States Forest Fire Compact Commission (SSFFCC) was held on June 2, 1991 in Williamsburg, Virginia.

Emergency Preparedness

The South Carolina Forestry Commission maintains contact and cooperates closely with the South Carolina Emergency Preparedness Agency. The S.C. Forestry Commission is the primary agency responsible for providing a number of services before, during, and after most natural or man-made disasters. It is the primary agency responsible for coordinating Forest Fire Services and timber removal in the interest of public safety from private property during all emergencies or disasters. Support services are provided in

the areas of warning operations, communications, State Emergency Operations Centers and Forward Emergency Operations Centers, urban and rural fire service, search and rescue operations, Disaster Assistance Centers operations, debris removal, and damage surveys.

Fire Protection - Title IV

The Rural Development Act of 1972, Title IV (Public Law 92-419), as amended, authorized the Secretary of Agriculture to develop a Rural Community Fire Protection Program. This program applies to rural communities throughout the country and is established to provide financial and technical assistance for organizing, training, and equipping local fire fighting forces in communities under 10,000 population. Qualifying fire departments have been able to apply for funds under this program on a 50/50 matching basis. Funds may be utilized for equipment such as fire hose, protective clothing, communications equipment, and breathing apparatus. Funding for 1990-91 fiscal year was \$ 50,116.00 and will provide assistance to 63 departments.

Disaster Emergency Supplemental Appropriations

The Federal Emergency Supplemental Appropriations Act provided for \$500,000 to purchase wildland fire suppression equipment and/or training to fire departments within the Hurricane Hugo damaged area of South Carolina.

The grant was 100%, with no matching funds or cost share required. All funds were dispersed to the fire departments, without any administrative charge by the Forestry Commission.

Fire Departments with heavy damaged timber in the Hugo areas were contacted by county rangers and/or district personnel, to discuss the individual fire department activities and whether the department responds to all fire calls within their established boundaries. Other information discussed were such things as: number of fires, acreage in fire department coverage zones, and number of wildfires responded to in the last three years.

The county ranger filled out the survey forms while at the fire departments and the form was signed by both the fire chief and county ranger. An application was left with the fire chief to be filled out by the appropriate fire department officers. The target date for program commencement was October 1, 1990.

Applications were funded in December 1990 and January 1991. The program completion date is September 30, 1991.

Checks were delivered by county rangers and/or district office personnel. When the departments received their checks they were required to sign both Grant Fund Expenditures and Records form and Receipt of Check form.

The actual amount of funds issued to the fire departments was based on the total acreage in each department's coverage zone. The per acre rate was \$.11447 with the exception that no department would receive less than five hundred dollars (\$500.00). A total of 117 departments in 20 counties were approved for funding. These departments covered a total of 4,367,869 acres.

All funds were distributed by 1-2-91 and departments were urged to expend the funds as soon as reasonably possible. Copies of paid invoices are to be forwarded to the Forestry Commission for verification. The invoices are coming in at this time.

Excess Federal Equipment

Excess federal equipment, loaned to the Forestry Commission by the U.S. Forest Service, is provided to qualifying rural fire departments for conversion to useful pieces of fire fighting equipment. The department receiving this equipment agrees to paint, maintain, and insure it, and to respond to calls from the Forestry Commission. All equipment is returned to the Forestry Commission when no longer needed by the department.

Since the Cooperative Rural Fire Program began in January of 1976, 417 vehicles, water tanks and miscellaneous equipment have been loaned to 257 rural fire departments throughout the state. At present 140 departments have in use 186 pieces of excess equipment. During the fiscal year, 21 pieces of equipment were issued or transferred to qualifying fire departments.

Langley Fire Department in Aiken County unfortunately lost their entire inventory of trucks and equipment when the fire station burned this past year. With the help of the U.S. Forest Service (in Atlanta) and Government Services Administration, the S.C. Forestry Commission was able to obtain a 2 ton - 750 gallon pumper for the department.

This pumper was only one of three vehicles the S.C Forestry Commission was able to obtain this year. Serviceable Federal Excess property has been very scarce this year.

Fire Weather & Smoke Management Forecast

Regular and special fire weather and smoke management forecasts are available to the Forestry Commission, other agencies, and the public through the National Weather Service.

Throughout the year, fire weather and smoke management forecasts are received twice daily by the Forestry Commission and relayed to all field offices and fire towers as well as to others interested. Special forecasts are available upon request for areas with large fires and during periods of extreme fire danger.

Weather Stations

A fire weather station is located in each district. The information from these stations is used in the National Fire Danger Rating System. This information is furnished daily to all fire management personnel. These weather stations also provide special information for the National Weather Service.

Precipitation

Precipitation in South Carolina during 90-91 averaged 55.32 inches as recorded by NOAA and the South Carolina State Climatology Office. This was 4.91 inches above the State's normal annual rainfall of 50.41 inches.

AVERAGE PRECIPITATION BY MONTHS			
Month	Rainfall Inches	*Normal Inches	Departure from Normal Inches
Jul-90	4.9	5.59	-0.69
Aug-90	6.34	5.24	1.1
Sep-90	1.6	4.51	-2.91
Oct-90	9.47	2.99	6.48
Nov-90	2.24	2.63	-0.39
Dec-90	2.53	3.51	-0.98
Jan-91	6	3.97	2.03
Feb-91	1.68	3.92	-2.24
Mar-91	6.02	5.13	0.89
Apr-91	5.04	3.51	1.58
May-91	6.23	4.16	2.07
Jun-91	3.27	5.25	-1.98
Total	55.32	50.41	4.91

FIVE-YEAR SUMMARY OF PRECIPITATION

Fiscal Year	Rainfall (inches)	Departure from Normal (inches)
1986-87	56.06	7.74
1987-88	40.61	-7.71
1988-89	48.75	0.43
1989-90	48.25	-0.07
90-91	55.34	4.91
Average	49.8	4.17

Readiness Plan

Initiated in the fall of 1982, the Commission's Readiness Plan System considers the influence of weather and fuel conditions on fire behavior (NFDRS indices), the chance of a fire starting, and the capability of the fire control organization at any given time. Readiness plans give guidance in work planning and fire control activities. These allow the Commission to perform all of its many functions while at the same time meeting fire control responsibilities. Readiness Plans are on a scale of 1-7 with 1 being the lowest state of readiness and 7 the highest.

Readiness Days 1990-91

Number of Readiness 1 Days	92
Number of Readiness 2 Days	198
Number of Readiness 3 Days	49
Number of Readiness 4 Days	20
Number of Readiness 5 Days	6
Number of Readiness 6 Days	0
Number of Readiness 7 Days	0

Smoke Management

In the spring of 1980 Smoke Management Guidelines for Forestry Prescribed Burning Operations were adopted. This statewide program was developed by a committee of the S.C. Forestry Association in cooperation with the S.C. Forestry Commission.

In 1985, a memorandum of understanding with the S.C. Department of Health and Environmental Control expanded the S.C. Forestry Commission's responsibility for smoke management related to forestry, wildlife, and agricultural burning operations.

The objective of the program is to minimize the impact of smoke from vegetative debris burning operations. The Forestry Commission offers training for Prescribed Fire Managers throughout the state. In 1991, these courses were presented in Newberry, Florence, and Walterboro with a total of 92 attendees.

Legal Fires

Legal fires are forest fires which are authorized by the landowner, started by him or his authorized agent and burn entirely upon his land.

Individual landowners reported 4,033 fires that burned an estimated 300,782 acres for various purposes during 1990-91. Forestry Commission employees conducted 175 burn site inspections this year.

Summary of Legal Fires 1990-91

Hazard Reduction Hardwood Control			Wildlife Improvement		Site Preparation		Total	
DISTRICT	NO.	ACRES	NO. ACRES		NO.	ACRES	NO.	ACRES
Camden	170	22780	7	557	86	4493	263	27830
Florence	134	9401	23	955	59	2931	216	13287
Kingstree	509	61233.5	105	15635	67	3233	671	80101.5
Newberry	70	6536	62	5878	239	13588	371	12414
Orangeburg	241	18942	20	1299	880	21776.5	1141	42017.5
Spartanburg	21	1783	1	462	99	6354	121	8599
Walterboro	845	65300	289	45421	116	5812	1250	116533
1990	185975.5		507	70207	1546	58187.5	4033	300782

Law Enforcement

The Forestry Commission has 72 forest law enforcement officers. They are commissioned by the Forestry Commission under statute authority of the 1982 General Assembly. Forest law enforcement officers have statewide jurisdiction for the enforcement of forestry laws of the state and duly enacted regulations of the Forestry Commission. All forest law enforcement officers are given basic law enforcement training by the Criminal Justice Academy. Additional training in forest fire investigation is provided by the Forestry Commission. In-service training is given annually to keep officers up-to-date on changes that occur and to maintain proficiency in law enforcement skills. All forest fire management personnel are trained in preliminary forest fire investigation. In carrying out its forest law enforcement responsibilities, the Forestry Commission works closely with other state and local law enforcement agencies.

Burning Precautions

Enacted in 1969, the statewide Burning Precautions Law requires that a representative of the Forestry Commission be notified before a fire is started in any woodlands, brushlands, grasslands, ditchbanks, or hedgerows or in any debris, leaves or other flammable material adjacent thereto. The law also requires that a person clear around the area to be burned, have equipment and personnel on hand to contain it and carefully supervise the burn. The State Forester may direct that fires covered under the Precautions Law not be started when deemed necessary in the interest of public safety.

SOUTH CAROLINA FORESTRY COMMISSION

FIRE LAW VIOLATIONS SUMMARY

From 07/01/90 Thru 06/30/91

County	None	Careless & Negligent	Intentional	Willful & Malicious	Burning Notification	Burning Ban
Abbeville	21	4	9	0	1	0
Aiken	56	39	75	0	11	5
Allendale	15	16	11	0	0	0
Anderson	33	5	5	0	0	1
Bamberg	8	14	36	1	0	0
Barnwell	14	24	25	0	0	0
Beaufort	15	17	39	0	17	5
Berkeley	46	68	260	0	3	2
Calhoun	16	7	8	0	2	0
Charleston	2	22	39	0	4	1
Cherokee	8	30	6	15	1	0
Chester	23	1	15	0	1	3
Chesterfield	51	27	29	0	0	1
Clarendon	5	32	130	0	2	0
Colleton	40	34	121	3	11	7
Darlington	52	16	19	0	1	2
Dillon	22	15	12	0	2	1
Dorchester	23	13	101	0	8	1
Edgefield	22	0	0	0	0	0
Fairfield	28	12	13	0	0	1
Florence	43	35	75	0	4	0
Georgetown	27	39	74	0	3	3
Greenville	16	17	7	0	2	1
Greenwood	71	13	4	1	2	0
Hampton	42	2	11	0	2	1
Horry	60	53	138	0	0	0
Jasper	21	65	99	0	2	2
Kershaw	37	13	24	0	11	0
Lancaster	18	18	2	0	1	0
Laurens	28	7	11	0	0	0
Lee	44	0	0	2	15	0
Lexington	101	16	63	0	9	3
Manchester SF	0	0	0	0	0	0
Marion	15	8	15	0	3	2
Marlboro	12	14	9	0	4	0
McCormick	22	18	0	0	0	0
Newberry	14	0	5	0	1	0
Oconee	23	0	3	0	1	0
Orangeburg	16	80	67	0	0	0
Pickens	30	10	3	0	0	0
Richland	13	15	40	0	0	0
Saluda	17	1	3	0	0	0
Sand Hills SF	0	0	0	0	0	0
Spartanburg	17	22	21	0	0	0
Sumter	30	25	55	2	3	1
Union	45	0	3	0	0	0
Williamsburg	20	61	256	0	9	3
York	30	1	1	0	0	0
State Total	1313	928	1946	24	136	46

South Carolina Forestry Commission
Law Enforcement Prosecutions & Convictions By Violation
From 07/01/90 Thru 06/03/91

County	Careless & Negligent		Intentional		Willful & Malicious		Notification		Burning Ban		State Forests		Other	
	Pro	Con	Pro	Con	Pro	Con	Pro	CON	PRO	CON	PRO	CON	PRO	CON
Abbeville	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aiken	3	3	1	0	0	0	4	4	4	4	0	0	0	0
Allendale	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Anderson	2	2	0	0	0	0	2	2	0	0	0	0	0	0
Bamberg	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Barnwell	1	1	0	0	0	0	1	1	2	2	0	0	0	0
Beaufort	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berkeley	2	2	0	0	0	0	0	0	8	8	0	0	0	0
Calhoun	1	1	0	0	0	0	1	1	0	0	0	0	0	0
Charleston	0	0	0	0	0	0	11	11	0	0	0	0	0	0
Cherokee	1	1	0	0	0	0	1	1	0	0	0	0	0	0
Chester	0	0	0	0	0	0	1	1	1	1	0	0	0	0
Chesterfield	0	0	0	0	0	0	2	2	0	0	0	0	0	0
Clarendon	2	1	0	0	0	0	4	4	7	7	0	0	0	0
Colleton	13	12	0	0	0	0	6	4	11	9	0	0	0	0
Darlington	0	0	0	0	0	0	0	0	3	3	0	0	0	0
Dillon	0	0	0	0	0	0	1	1	1	1	0	0	0	0
Dorchester	0	0	0	0	0	0	2	1	4	4	0	0	0	0
Edgefield	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fairfield	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Florence	1	1	1	0	0	0	4	2	1	1	0	0	0	0
Georgetown	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Greenville	2	1	0	0	0	0	2	2	0	0	0	0	0	0
Greenwood	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hampton	0	0	0	0	0	0	3	3	1	1	0	0	0	0
Horry	1	1	0	0	0	0	10	10	8	8	0	0	0	0
Jasper	0	0	0	0	0	0	1	1	3	3	0	0	0	0
Kershaw	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lancaster	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laurens	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Lee	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Lexington	8	7	2	1	0	0	8	8	7	7	0	0	0	0
McCormick	1	1	0	0	0	0	0	0	1	1	0	0	0	0
Marion	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Marlboro	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Newberry	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oconee	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Orangeburg	3	2	0	0	0	0	3	3	10	10	0	0	0	0
Pickens	5	5	0	0	0	0	1	1	0	0	0	0	0	0
Richland	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Saluda	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spartanburg	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sumter	0	0	0	0	0	0	0	0	12	12	0	0	0	0
Union	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Williamsburg	1	1	0	0	0	0	0	0	7	6	0	0	0	0
York	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Manchester SF	0	0	0	0	0	0	0	0	0	0	2	2	0	0
Sand Hills SF	0	0	0	0	0	0	0	0	0	0	28	27	3	3
TOTAL	50	44	4	1	0	0	72	66	94	90	30	29	3	3
TOTAL Prosecutions	253													
TOTAL Convictions	233													

**Burning Precautions Law Summary
1990-91**

County	Number Notification Received
Abbeville	1660
Aiken	9459
Allendale	557
Anderson	3095
Bamberg	704
Barnwell	2287
Beaufort	1962
Berkeley	9356
Calhoun	627
Charleston	6705
Cherokee	1435
Chester	953
Chesterfield	4138
Clarendon	3249
Colleton	6969
Darlington	1255
Dillon	969
Dorchester	5790
Edgefield	569
Fairfield	2370
Florence	2976
Georgetown	5026
Greenville	4861
Greenwood	1755
Hampton	2550
Horry	6251
Jasper	3193
Kershaw	3532
Lancaster	1535
Laurens	1137
Lee	214
Lexington	10619
McCormick	325
Marion	1087
Marlboro	1159
Newberry	758
Oconee	2331
Orangeburg	1894
Pickens	1370
Richland	3786
Saluda	529
Spartanburg	2288
Sumter	5472
Union	120
Williamsburg	1701
York	6808
Total	137,226

Fire Towers

An intensive study was conducted to determine the best methods for public and agency communication, fire detection, and personnel dispatch. A report of recommendations was completed and implementation plans are in progress.

Basic forest fire detection is accomplished by an interlocking network of 119 forest fire lookout towers. These towers are strategically located so each tower's normal range of visibility overlaps with adjoining towers. With overlapping coverage, smokes can be observed, located, and checked out.

Aerial Detection

Forestry Commission fixed wing aircraft are used to supplement tower detection, separate legal burning from wildfires, help ground crews find the best path to a fire, warn of danger, aid in fire suppression, and other fire control uses.

During 1991 fiscal year, the Commission operated 8 fixed wing aircraft obtained from federal excess property. These were flown a total of 1333.3 hours. Contract aircraft were utilized for 352.3 hours during the same period. Total fixed wing aircraft use for the year was 1685.6 hours.

Summary of Detection Aircraft Use - Hours 1990 -91

Month	Camden District	Florence District	Kingstree District	Newberry District	Orangeburg District	Spartanburg District	Walterboro District	Piedmont Plane	Total
Jul-90	94.5	79.5	57.6	54.9	28.8	15.9	36.3	46	413.5
Aug-90	9.1	2.3	8.5	10.5	12.4	3.1	6.4	29.9	82.2
Sep-90	22.4	7.6	1.5	0.9	14.7	10.3	22.2	22.1	101.7
Oct-90	4.8	3.7	14.4	3.1	1	3.8	8.3	3	42.1
Nov-90	10.8	3.2	9.2	3.1	3.1	6.6	2.5	3.7	42.2
Dec-90	12	5.7	6.1	3.1	5	3.1	1	4.2	40.2
Jan-91	4.4	2.6	3.3	3	3	4.1	5.5	2.7	28.6
Feb-91	24.1	2.4	48.7	3	31.2	3	23.3	8.1	143.8
Mar-91	69.2	8.1	61.1	12.6	45.6	35.2	43.4	34.3	309.5
Apr-91	14.3	8.4	17.9	3	10.3	3.1	5	8.2	70.2
May-91	4.8	1	3	3	3	3	4.5	3	25.3
Jun-91	11.7	2.5	3.6	3	3.2	3.1	3.8	3.1	34
Total SCFC	282.1	127	234.9	103.2	161.3	94.3	162.2	168.3	1333.3
Contract	0	38.1	0	0	24.9	31.5	0	0	352.3 **
Grand Total	282.1	165.1	234.9	103.2	186.2	125.8	162.2	168.3	1685.6

** Includes two (2) aircraft (flying 257.4 hours) for Hugo area detection. (FEMA Funded.)

Air Tanker Program

The primary purpose of air tankers is to aid ground crews in the initial attack of wildfires. They are also used in areas of difficult terrain such as coastal swamps/bays and steep mountain slopes where the use of ground equipment is limited. Air tankers cannot replace ground equipment, but because of their capability to respond wherever needed quickly, they can keep a fire from spreading until ground crews arrive to affect complete control.

The Forestry Commission has used air tankers for retardant delivery on wildfires for the past 13 years. In these years, tankers were contracted for the time of peak fire occurrence in February, March, and April.

Two water scooping aerial tankers were used for the spring 91 fire season. They were paid for with FEMA funds and were used in the Hurricane Hugo damaged area. One CL-215 was stationed at Charleston February 2 through April 16, and a PBY was at Sumter, February 1 through April 16. These two air tankers were capable of scooping from nearby water sources and adding foam retardant to the mix while in flight. These two tankers flew 55 hours and 6 minutes and dropped 252,000 gallons of retardant in 180 drops on 37 separate fires.

SOUTH CAROLINA FORESTRY COMMISSION AERIAL TANKER PROGRAM STATISTICS.

Year	#Aircraft	Days Standby	Flight Hours	Cost of Program	Availability Cost/Day	Flight time Cost/Hour
79	3	181	23:08	\$77,316	\$219	\$345
80	3	119	6:20	\$55,632	\$310	\$490
81	2	94	53:11	\$100,894	\$545	\$590
82	2	83	15:56	\$72,423	\$585	\$630
83	2	90	3:55	\$67,733	\$624	\$697
84	2	93	5:16	\$74,042	\$636	\$639
85	2	134	105:10	\$181,000	\$590	\$670
86	2	96	9:26	\$60,351	\$549	\$571
87	2	90	10:52	\$70,856	\$522	\$538
88	2	84	31:44	\$78,439	\$570	\$660
89	2	90	4:06	\$72,000	\$585	\$595
90	2 (CL 215)	165	83:18	\$701,410	\$3,233	\$1,850
91	1 (CL215)	75	32:51	\$325,964	\$3,437	\$2,075
	1 (PBY)	75	22:15	\$244,655	\$2,770	\$1,770

Helicopter Delivery Program

Three helicopters were operational for the year. The helicopters were obtained from the Federal Excess Property Program and are used in fire suppression by dropping foam injected water on forest fires, in fire hazard reduction burning and other fire control operations. During the 1991 Fiscal Year, the Commission helicopters flew 103 hours while completing 385 water drops on twenty-seven forest fires.

Marine Corps Air Station

In December 1986 the Forestry Commission and the Commanding Officer, Marine Corps Air Station, Beaufort entered into an agreement under which the Air Station can provide helicopter delivery of aerial retardants on forest fires. In February 1987, training was given to Air Station and Rural Fire Department personnel in fire behavior, fire tactics, communication, and retardant drops. Station helicopters were not called upon in FY-91 but they will be available resources in the years ahead.

Forest Fire Suppression

Forest fire occurrence was below average and acreage losses were about average for the 1990-91 fire season. The greatest losses occurred during February and March. Approximately one half of the acreage loss occurred during the last ten days in March. The largest fire burning 3,500 acres occurred during this time frame.

The fiscal year losses were 4,329 fires burning 30,536 acres. Berkeley County experienced the greatest losses with 4,829 acres burned. Counties experiencing losses exceeding 2,000 acres in addition to Berkeley included Clarendon, Colleton, and Marlboro. These four counties accounted for forty-two percent of the acreage burned.

Forest arson type fires accounted for forty-five (45) percent of all fires and forty-five (45) percent of the total acreage burned. Debris burning was second with twenty-five (25) percent of all fires and twenty-one (21) percent of acreage losses.

In summary, the fire losses experienced indicates that a good job was done by the fire suppression forces. The average size fire was 7.1 acres with twenty four-hundredths of one percent of the acreage protected being burned.

1990-91
County Fire Personnel & Volunteers

	Tower				
	Rangers	Warden	Operators	Totals	Volunteers
Abbeville	1	3	1	5	205
Aiken	1	4	4	9	695
Allendale	1	3	2	6	14
Anderson	1	3	2	6	215
Bamberg	1	2	2	5	68
Barnwell	1	3	2	6	219
Beaufort	1	4	2	7	356
Berkeley	1	8	5	14	1001
Calhoun	1	3	2	6	79
Charleston	1	3	2	6	197
Cherokee	1	2	1	4	438
Chester	1	2	1	4	191
Chesterfield	1	4	4	9	472
Clarendon	1	5	3	9	204
Colleton	1	7	5	13	219
Darlington	1	4	2	7	280
Dillon	1	3	2	6	84
Dorchester	1	6	3	10	291
Edgefield	1	2	1	4	117
Fairfield	1	4	3	8	104
Florence	1	6	4	11	442
Georgetown	1	6	4	11	355
Greenville	1	4	3	8	274
Greenwood	1	3	2	6	244
Hampton	1	4	3	8	52
Horry	1	7	4	12	470
Jasper	1	5	2	8	441
Kershaw	1	6	6	13	50
Lancaster	1	4	1	6	257
Laurens	1	3	2	6	93
Lee	1	3	2	6	133
Lexington	1	5	3	9	1000
Marion	1	4	3	8	117
Marlboro	1	4	3	8	153
McCormick	1	2	1	4	84
Newberry	1	3	2	6	118
Oconee	1	3	1	5	118
Orangeburg	1	7	5	13	138
Pickens	1	3	2	6	153
Richland	1	6	4	11	164
Saluda	1	2	1	4	79
Spartanburg	1	4	2	7	452
Sumter	1	5	3	9	260
Union	1	3	1	5	223
Williamsburg	1	7	4	12	322
York	1	3	2	6	185
Total	46	187	119	352	11831

SOUTH CAROLINA FORESTRY COMMISSION
SUPPRESSION RESOURCES USED
PERSONNEL BY COUNTY
FISCAL YEAR 90

COUNTY	SCFC PERSONNEL	OTHER PERSONNEL	TOTAL PERSONNEL
ABBEVILLE	80	161	241
AIKEN	244	880	1,124
ALLENDALE	124	8	132
ANDERSON	104	246	350
BAMBERG	52	108	160
BARNWELL	73	145	218
BEAUFORT	53	174	227
BERKELEY	456	608	1,064
CALHOUN	94	153	247
CHARLESTON	183	376	559
CHEROKEE	100	377	477
CHESTER	60	263	323
CHESTERFIELD	377	800	1,177
CLARENDON	342	181	523
COLLETON	256	91	347
DARLINGTON	268	546	814
DILLON	104	98	202
DORCHESTER	210	148	358
EDGEFIELD	63	129	192
FAIRFIELD	93	225	318
FLORENCE	362	740	1,102
GEORGETOWN	200	264	464
GREENVILLE	74	181	255
GREENWOOD	127	232	359
HAMPTON	68	38	106
HORRY	324	325	649
JASPER	214	216	430
KERSHAW	432	98	530
LANCASTER	128	407	535
LAURENS	66	128	194
LEE	183	320	503
LEXINGTON	317	1,202	1,519
MANCHESTER SF			
MARION	99	167	266
MARLBORO	167	289	456
MCCORMICK	41	43	84
NEWBERRY	42	183	225
OCONEE	27	48	75
ORANGEBURG	282	235	517
PICKENS	62	108	170
RICHLAND	134	336	470
SALUDA	61	53	114
SAND HILLS SF			
SPARTANBURG	99	452	551
SUMTER	352	402	754
UNION	68	211	279
WILLIAMSBURG	481	230	711
YORK	94	240	334
TOTAL	7,840	12,865	20,705

SOUTH CAROLINA FORESTRY COMMISSION

FOREST LAND FIRES BY COUNTY AND CAUSE FISCAL YEAR 91

COUNTY	LIGHTNING		CAMPFIRE		SMOKING		DEBRIS BURNING		INCENDIARY		EQUIPMENT U S E		RAILROAD		CHILDREN		MISC.		T O T A L	
	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES
ABBEVILLE							3	16.0	6	21.9	2	13.6	1	15.0	1	.5	1	2.0	14	69.0
AIKEN	13	54.5	1	6.0	4	11.0	42	86.4	61	136.2	8	9.1	1	1.0	6	7.5	10	17.0	146	328.7
ALLENDALE	2	4.8			1	12.0	13	8.8	8	48.6	5	4.9	2	17.0					31	96.1
ANDERSON	3	9.0			17	48.2	10	24.1	3	22.2	1	.5			4	33.0	5	12.0	43	149.0
BAMBERG	2	27.5					13	60.7	34	88.9	7	7.7					2	.2	58	185.0
BARNWELL	6	14.3			3	.4	6	3.1	19	46.4	5	2.6			1	.2	2	28.1	42	95.1
BEAUFORT					1	1.0	14	437.6	26	101.1	1	2.0			3	3.8	6	9.3	51	554.8
BERKELEY	1	25.0	1	.5	3	9.5	65	2037.7	229	2379.5	19	85.1	3	153.0	5	9.7	9	35.3	335	4735.3
CALHOUN	4	1.6					10	27.9	10	23.6	4	18.1			2	5.5			30	76.7
CHARLESTON							19	55.6	37	216.8									56	272.4
CHEROKEE	1	1.0			1	1.0	10	17.4	13	9.7	1	.3			2	6.0	3	2.1	31	37.5
CHESTER	2	16.0					13	12.6	10	82.6							6	6.1	31	117.3
CHESTERFIELD	12	44.5			7	17.9	25	67.1	20	23.9	1	.1	1	.1	2	.2	16	22.1	84	175.9
CLARENDON	1	75.0			1	2.0	24	289.0	99	1643.4	3	76.0					1	.2	129	2085.6
COLLETON	3	539.0			2	6.0	41	194.8	110	582.2	9	29.5	1	6.0	2	2.1	6	3.2	174	1362.8
DARLINGTON	13	350.9	1	.5	6	15.9	26	82.8	18	53.3	7	69.3			6	11.0	1	70.0	78	653.7
DILLON	5	9.0	1	2.0	8	49.0	13	19.4	16	19.4	3	10.2	1	40.0	3	6.1	5	3.8	55	158.9
DORCHESTER	10	86.0			1	1.0	21	81.7	90	478.6	3	2.1					3	33.5	128	682.9
EDGEFIELD	4	103.1			2	2.1	6	61.9			4	20.0			1	.2	1	.1	18	187.4
FAIRFIELD	12	128.6	1	1.0	4	5.5	6	5.2	12	15.6	2	3.1	2	.3	2	4.0	1	2.0	42	165.3
FLORENCE	10	48.5			6	10.8	32	134.7	60	468.2	9	121.1			10	74.2	3	1.4	130	858.9
GEORGETOWN	13	766.0					42	96.0	70	376.3	5	5.0			2	.6	4	16.4	136	1260.3
GREENVILLE	2	6.0	1	2.0	3	4.8	11	40.6	8	27.7	3	11.1			4	49.2	6	53.9	38	195.3
GREENWOOD	5	90.3	2	2.5	15	16.6	13	33.0	6	19.3	2	.2	13	114.4	25	32.2	8	9.7	89	318.2
HAMPTON	4	7.1					17	17.0	11	50.4	7	9.1	4	11.7	2	1.0	1	.1	46	96.4
HORRY	4	9.1			2	4.0	58	295.3	115	1240.6	8	152.6			12	22.5	10	16.8	209	1740.9
JASPER	3	107.0			3	1.3	45	223.5	92	1027.3	9	76.3			5	13.8	10	18.0	167	1467.2
KERSHAW	12	40.1			4	3.2	12	12.1	24	58.2	1	1.0	3	3.5	3	2.1	8	3.7	67	123.9
LANCASTER	2	5.0			3	8.5	7	29.0	3	8.0	3	1.7			6	7.7	7	11.9	31	71.8
LAURENS	5	106.0			1	2.0	7	17.0	6	29.0					3	8.5	4	68.0	26	230.5
LEE	3	38.0			1	10.0	9	36.6	17	378.2	1	1.0			1	3.0	13	57.0	45	523.8
LEXINGTON	10	76.9	2	1.1	7	2.4	52	74.8	70	121.2	4	8.7			19	9.4	35	48.2	199	342.7
MANCHESTER S																				
MARION	2	1.0	1	20.0	4	1.8	11	8.4	13	26.7	1	1.0	1	2.0	3	6.2	2	.6	38	67.7
MARLBORO	2	4.0	1	1.0	6	3604.3	11	21.8	7	10.9	3	8.1			2	1.3	2	2.1	34	3653.5
MCCORMICK	5	386.6	3	2.6	3	8.3	6	26.3	4	3.7	4	3.7			1	.1	7	9.5	29	437.1
NEWBERRY	1	3.0					4	9.3	5	244.0	3	2.1			2	2.5	4	4.6	19	265.5
OCONEE					2	1.1	6	21.0	2	36.0	1	10.0	1	.5			8	35.4	20	104.0
ORANGEBURG	1	4.0			12	14.7	47	87.6	56	121.6	7	10.6			11	24.1	6	1.7	140	264.3
PICKENS	3	4.6			6	9.2	19	68.4	3	1.7	1	2.0			1	12.0	8	5.9	41	103.8
RICHLAND	4	12.5	1	2.0	6	7.0	9	50.0	32	138.7	1	1.0			6	9.0	1	1.0	60	221.2
SALUDA	2	50.1	1	.2			2	1.1	3	.3	2	.6					4	8.1	14	60.4
SAND HILLS S																				
SPARTANBURG					8	19.0	5	9.0	15	32.0	3	23.0			2	2.0	12	25.6	45	110.6
SUMTER	10	46.9			1	2.5	25	65.7	39	419.8	4	24.5			5	16.0	13	85.2	97	660.6
UNION	1	25.0							2	1.5					2	2.5	1	1.0	6	30.0
WILLIAMSBURG							68	338.7	251	1582.7	13	22.3			6	6.0			338	1949.7
YORK			2	2.2			6	6.8	1	2.0	1	1.0			2	2.0	9	15.4	21	29.4
T O T A L	198	3327.5	19	43.6	154	3914.0	904	5313.5	1732	12416.2	181	851.9	34	364.5	175	397.7	264	748.2	3661	27377.1

SOUTH CAROLINA FORESTRY COMMISSION
TOTAL ALL LAND FIRES BY COUNTY AND CAUSE FISCAL YEAR 91

COUNTY	LIGHTNING		CAMPFIRE		SMOKING		DEBRIS BURNING		INCENDIARY		EQUIPMENT USE		RAILROAD		CHILDREN		MISC.		TOTAL	
	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES
ABBEVILLE					4	10.7	6	28.0	9	24.4	11	23.0	1	15.0	2	.6	2	2.2	35	103.9
AIKEN	13	54.5	1	6.0	4	11.0	50	97.9	69	204.0	12	24.3	1	1.0	6	7.5	16	38.4	172	444.6
ALLENDALE	2	4.8			1	12.0	15	10.4	14	68.6	7	5.4							42	119.2
ANDERSON	3	9.0			17	63.2	10	33.1	4	31.7	1	1.0			4	40.0	5	12.0	44	190.0
BAMBERG	2	27.5					13	60.7	35	90.0	7	19.2					2	.2	59	197.6
BARNWELL	7	14.6			5	5.6	8	5.6	32	64.4	9	38.2			2	1.4	3	28.3	66	158.1
BEAUFORT			1	3.0	3	5.1	31	472.5	41	209.5	1	2.0			4	6.8	11	13.9	92	712.8
BERKELEY	1	25.0	1	.5	3	9.5	70	2052.2	249	2458.9	19	85.1	3	153.0	5	9.7	12	35.6	363	4829.5
CALHOUN	5	4.0					10	30.9	10	24.2	5	25.2			2	5.5			32	89.8
CHARLESTON							28	77.1	41	298.8									69	375.9
CHEROKEE	2	7.0			4	4.0	19	27.9	21	38.7	1	.3			4	14.0	9	5.6	60	97.5
CHESTER	3	46.0					14	12.7	15	85.1	1	.1					9	6.4	42	150.3
CHESTERFIELD	14	44.9			9	18.1	39	87.3	29	33.9	2	.2	3	.3	3	.3	21	27.2	120	212.2
CLARENDON	1	75.0			2	2.1	29	302.2	124	1919.1	5	80.0			2	1.1	1	.2	164	2379.7
COLLETON	3	543.0			3	6.5	62	730.2	128	714.0	13	30.3	3	6.2	3	2.3	10	18.2	225	2050.7
DARLINGTON	13	350.9	1	.5	6	15.9	31	100.0	19	58.5	10	71.2			7	13.0	1	70.0	88	680.0
DILLON	5	9.0	1	2.0	9	89.1	14	20.4	16	19.4	3	10.2	1	40.0	3	6.1	6	4.5	58	200.7
DORCHESTER	10	86.0			1	1.0	25	113.0	101	505.1	5	3.6			3	33.5	3	33.5	145	742.2
EDGEFIELD	4	120.1			2	2.1	6	67.8			5	43.2			1	.2	4	1.3	22	234.7
FAIRFIELD	12	128.6	1	1.0	9	13.6	7	6.3	12	15.6	3	3.2	5	.8	3	4.1	1	2.0	53	175.2
FLORENCE	10	48.5			11	22.8	36	139.1	74	501.3	11	135.2			10	74.2	5	7.5	157	928.6
GEORGETOWN	13	766.0					45	102.6	75	420.3	5	5.0			3	.9	4	16.4	145	1311.2
GREENVILLE	2	6.0	2	2.5	3	4.8	14	47.7	9	46.7	3	11.1			4	52.2	7	63.4	44	234.4
GREENWOOD	5	90.3	2	2.5	15	16.7	14	33.1	6	19.3	3	1.2	14	115.2	26	37.2	8	9.7	93	325.2
HAMPTON	4	7.1					25	21.7	13	54.6	10	10.4	4	11.7	2	1.0	2	.2	60	106.7
HORRY	4	9.1			2	4.0	58	342.1	116	1243.6	8	154.6			12	22.5	10	18.8	210	1794.7
JASPER	3	107.0			3	1.3	54	232.9	99	1071.8	10	76.4			6	16.9	13	119.6	188	1625.9
KERSHAW	12	40.1			6	6.3	14	14.2	25	60.2	1	1.0	3	3.5	3	2.1	10	4.8	74	132.2
LANCASTER	2	5.0			5	12.5	9	31.2	4	9.0	3	1.7			7	8.7	9	13.4	39	81.5
LAURENS	6	118.0			4	19.0	11	25.5	9	31.0					4	10.5	10	82.0	44	286.0
LEE	4	42.1			1	10.0	12	43.0	21	391.9	2	1.5			1	3.0	16	78.2	57	569.7
LEXINGTON	10	76.9	2	1.1	7	2.4	52	74.8	70	121.2	4	8.7			19	9.4	35	48.2	199	342.7
MANCHESTER S																				
MARION	2	1.0	1	20.0	4	1.8	15	14.3	13	26.7	1	1.0	1	4.0	4	8.7	2	.6	43	78.1
MARLBORO	2	4.0	1	1.0	7	3604.4	14	43.0	8	11.0	3	8.1			2	1.3	2	2.1	39	3674.9
MCCORMICK	6	386.7	3	3.1	3	8.3	7	26.4			10	4.9	1	.1	1	.1	9	12.2	40	441.8
NEWBERRY	1	3.0					4	10.5	5	244.0	3	2.1			2	2.5	5	5.6	20	267.7
OCONEE					2	1.1	12	28.0	2	36.0	2	22.0	1	.5	1	.1	9	37.4	29	125.1
ORANGEBURG	1	4.0			15	37.7	57	119.3	70	173.2	10	23.9			12	33.0	9	10.7	174	401.8
PICKENS	3	4.6			6	9.3	19	101.0	3	6.7	1	2.5			2	12.2	9	6.9	43	143.2
RICHLAND	5	13.0	1	2.0	6	7.0	12	58.0	37	158.7	2	2.0			6	9.0	1	1.0	70	250.7
SALUDA	3	133.2	1	.2			7	4.8	3	.3	2	.6					5	8.2	21	147.3
SAND HILLS S																				
SPARTANBURG					10	21.0	7	17.0	21	67.0	5	28.0			2	2.0	14	36.6	59	171.6
SUMTER	10	46.9			1	2.5	28	99.2	50	556.1	4	35.5			5	16.0	13	91.2	111	847.4
UNION	6	78.0			20	19.0	9	14.5	2	1.5			2	2.5	3	3.5	4	7.5	46	126.5
WILLIAMSBURG							70	340.2	253	1592.9	13	22.3			6	6.0			342	1961.4
YORK			3	2.7			9	7.3	1	2.0	1	1.0			3	3.0	15	38.8	32	54.8
TOTAL	214	3540.4	22	48.1	213	4081.4	1101	6327.6	1958	13710.9	237	1026.4	46	371.8	197	448.6	342	1020.5	4330	30575.7

SOUTH CAROLINA FORESTRY COMMISSION
FOREST LAND FIRES BY COUNTY AND CLASS
FISCAL YEAR 91

	CLASS A		CLASS B		CLASS C		CLASS D		CLASS E		CLASS F		CLASS G		TOTAL	
	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES
ABBEVILLE	3	.5	7	10.0	4	58.5									14	69.0
AIKEN	17	2.5	122	227.2	7	99.0									146	328.7
ALLENDALE	7	1.1	20	26.0	4	69.0									31	96.1
ANDERSON	3	.5	37	96.5	3	52.0									43	149.0
BAMBERG	20	2.4	33	74.6	5	108.0									58	185.0
BARNWELL	19	2.6	21	51.3	2	41.2									42	95.1
BEAUFORT	6	.9	40	63.9	4	65.0			1	425.0					51	554.8
BERKELEY	45	5.1	223	478.0	58	1505.2	8	1239.0			1	1508.0			335	4735.3
CALHOUN	8	1.2	19	45.5	3	30.0									30	76.7
CHARLESTON	3	.6	42	98.8	11	173.0									56	272.4
CHEROKEE	2	.3	29	37.2											31	37.5
CHESTER	7	.8	21	37.5	3	79.0									31	117.3
CHESTERFIELD	30	4.1	50	104.8	4	67.0									84	175.9
CLARENDON	20	2.1	74	167.5	31	735.0	2	300.0	2	881.0					129	2085.6
COLLETON	25	3.3	120	291.5	28	553.0			1	515.0					174	1362.8
DARLINGTON	11	1.4	57	112.3	9	215.0			1	325.0					78	653.7
DILLON	16	2.6	36	76.3	3	80.0									55	158.9
DORCHESTER	4	.4	106	266.5	18	416.0									128	682.9
EDGEFIELD	5	.7	7	12.7	6	174.0									18	187.4
FAIRFIELD	19	2.2	19	37.1	4	126.0									42	165.3
FLORENCE	30	3.9	81	190.0	18	515.0	1	150.0							130	858.9
GEORGETOWN	33	5.0	84	176.1	18	417.2			1	662.0					136	1260.3
GREENVILLE	5	.6	28	73.3	5	121.4									38	195.3
GREENWOOD	21	3.4	60	110.8	8	204.0									89	318.2
HAMPTON	15	2.0	30	64.4	1	30.0									46	96.4
HORRY	35	5.0	149	302.9	19	361.0	5	632.0	1	440.0					209	1740.9
JASPER	26	3.5	114	317.7	24	793.0	3	353.0							167	1467.2
KERSHAW	23	3.1	42	72.8	2	48.0									67	123.9
LANCASTER	4	.8	26	56.0	1	15.0									31	71.8
LAURENS			22	44.5	3	86.0	1	100.0							26	230.5
LEE	7	.8	29	87.0	8	136.0			1	300.0					45	523.8
LEXINGTON	101	13.7	90	158.0	8	171.0									199	342.7
MANCHESTER S																
MARION	16	2.7	20	35.0	2	30.0									38	67.7
MARLBORO	3	.3	29	43.2	1	10.0					1	3600.0			34	3653.5
MCCORMICK	13	1.5	14	28.6	1	25.0			1	382.0					29	437.1
NEWBERRY	2	.2	14	25.3	1	30.0	2	210.0							19	265.5
OCONEE	1	.1	15	29.4	4	74.5									20	104.0
ORANGEBURG	37	5.5	102	233.8	1	25.0									140	264.3
PICKENS	6	1.0	32	40.8	3	62.0									41	103.8
RICHLAND	1	.2	53	101.0	6	120.0									60	221.2
SALUDA	8	.9	5	9.5	1	50.0									14	60.4
SAND HILLS S																
SPARTANBURG	1	.1	41	72.5	3	38.0									45	110.6
SUMTER	10	1.2	68	194.4	19	465.0									97	660.6
UNION			5	5.0	1	25.0									6	30.0
WILLIAMSBURG	42	4.5	238	660.2	58	1285.0									338	1949.7
YORK	3	.5	17	18.9	1	10.0									21	29.4
TOTAL	713	95.8	2491	5466.3	424	9793.0	22	2984.0	9	3930.0	2	5108.0			3661	27377.1

CLASS A <=.25; CLASS B .26-9.9; CLASS C 10-99; CLASS D 100-299; CLASS E 300-999; CLASS F 1000-4999; CLASS G > 5000

SOUTH CAROLINA FORESTRY COMMISSION
TOTAL ALL LAND FIRES BY COUNTY AND CLASS
FISCAL YEAR 91

	CLASS A		CLASS B		CLASS C		CLASS D		CLASS E		CLASS F		CLASS G		TOTAL	
	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES
ABBEVILLE	10	1.4	20	32.5	5	70.0									35	103.9
AIKEN	26	3.5	134	246.1	12	195.0									172	444.6
ALLENDALE	14	2.3	24	32.9	4	84.0									42	119.2
ANDERSON	3	.5	37	123.5	4	66.0									44	190.0
BAMBERG	21	2.5	33	87.1	5	108.0									59	197.6
BARNWELL	29	4.2	34	72.5	3	81.4									66	158.1
BEAUFORT	16	2.4	69	167.4	6	118.0			1	425.0					92	712.8
BERKELEY	62	6.7	232	490.6	60	1585.2	8	1239.0			1	1508.0			363	4829.5
CALHOUN	7	1.0	22	58.8	3	30.0									32	89.8
CHARLESTON	5	.9	50	127.0	14	248.0									69	375.9
CHEROKEE	4	.5	55	85.0	1	12.0									60	97.5
CHESTER	15	1.8	23	44.5	4	104.0									42	150.3
CHESTERFIELD	55	7.3	59	114.9	6	90.0									120	212.2
CLARENDON	32	3.3	92	230.4	36	910.0	2	300.0	2	936.0					164	2379.7
COLLETON	48	6.1	146	370.6	29	659.0			2	1015.0					225	2050.7
DARLINGTON	14	1.9	64	125.1	9	228.0			1	325.0					88	680.0
DILLON	18	2.9	37	77.8	2	80.0									57	160.7
DORCHESTER	4	.4	121	290.8	20	451.0									145	742.2
EDGEFIELD	6	.9	9	13.8	7	220.0									22	234.7
FAIRFIELD	27	3.2	22	46.0	4	126.0									53	175.2
FLORENCE	40	5.1	96	226.5	20	547.0	1	150.0							157	928.6
GEORGETOWN	35	5.3	91	188.7	18	455.2			1	662.0					145	1311.2
GREENVILLE	6	.7	33	89.3	5	144.4									44	234.4
GREENWOOD	22	3.6	63	117.6	8	204.0									93	325.2
HAMPTON	24	3.0	35	73.7	1	30.0									60	106.7
HORRY	32	4.6	151	312.4	21	403.7	5	634.0	1	440.0					210	1794.7
JASPER	34	4.1	124	327.8	24	641.0	6	653.0							188	1625.9
KERSHAW	26	3.5	46	80.7	2	48.0									74	132.2
LANCASTER	5	1.0	33	65.5	1	15.0									39	81.5
LAURENS			38	76.0	5	110.0	1	100.0							44	286.0
LEE	10	1.2	36	92.3	10	176.2			1	300.0					57	569.7
LEXINGTON	101	13.7	90	158.0	8	171.0									199	342.7
MANCHESTER S																
MARION	18	3.1	23	45.0	2	30.0									43	78.1
MARLBORO	6	.7	31	49.2	1	25.0					1	3600.0			39	3674.9
MCCORMICK	22	2.4	15	22.4	2	35.0			1	382.0					40	441.8
NEWBERRY	2	.2	15	27.5	1	30.0	2	210.0							20	267.7
OCONEE	4	.4	21	44.2	4	80.5									29	125.1
ORANGEBURG	45	6.6	126	346.2	3	49.0									174	401.8
PICKENS	6	1.1	33	45.1	4	97.0									43	143.2
RICHLAND	1	.2	63	130.5	6	120.0									70	250.7
SALUDA	12	1.4	8	15.9			1	130.0							21	147.3
SAND HILLS S																
SPARTANBURG	1	.1	54	113.5	4	58.0									59	171.6
SUMTER	11	1.3	76	238.1	24	608.0									111	847.4
UNION			44	66.5	2	60.0									46	126.5
WILLIAMSBURG	42	4.6	242	669.8	58	1287.0									342	1961.4
YORK	10	1.4	21	23.4	1	30.0									32	54.8
T O T A L	931	123.0	2891	6483.1	469	10920.6	26	3416.0	10	4485.0	2	5108.0			4329	30535.7

CLASS A <=.25; CLASS B .26-9.9; CLASS C 10-99; CLASS D 100-299; CLASS E 300-999; CLASS F 1000-4999; CLASS G > 5000

SOUTH CAROLINA FORESTRY COMMISSION FOREST LAND FIRES BY COUNTY AND MONTH FISCAL YEAR 91

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		TOTAL		
	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	
ABBEVILLE	3	14.5	1	.2					3	1.1							3	45.0	3	6.2			1	2.0	14	69.0	
AIKEN	41	73.8	14	56.2	17	27.8	5	23.5	8	12.0	3	11.0	1	.5	20	31.7	26	74.1	7	15.7	2	.8	2	1.6	146	328.7	
ALLENDALE	5	25.0	1	.2	16	60.8	2	2.2							6	6.9	1	1.0							31	96.1	
ANDERSON	12	53.9			2	8.5			8	10.5					8	14.0	11	60.1	1	.5	1	1.5			43	149.0	
BAMBERG	7	5.7	3	25.3	14	81.0	5	4.9	1	.5					14	29.8	13	34.8					1	3.0	58	185.0	
BARNWELL	8	4.8	2	10.2	4	2.5	2	.3	2	.3	2	5.0			10	47.1	11	24.8					1	.1	42	95.1	
BEAUFORT	6	29.2			4	3.8			1	2.0	2	1.2			20	488.5	18	30.1							51	554.8	
BERKELEY	38	455.0	4	50.2	17	32.9	7	12.0	17	16.6	17	45.3	12	169.5	80	887.7	124	2924.6	17	139.9	2	1.6			335	4735.3	
CALHOUN	3	6.3	2	1.1	3	15.2	1	.1	2	.6	1	1.5	1	4.0	7	23.9	10	24.0							30	76.7	
CHARLESTON	12	38.2			8	20.4	1	.3	4	23.0			1	.7	13	80.9	17	108.9							56	272.4	
CHEEROKEE	3	2.6					3	7.1	12	9.0	4	2.2			1	1.0	6	14.3	2	1.3					31	37.5	
CHESTER	13	76.3	1	1.0	1	1.0			6	4.5	1	.5			4	26.0	4	7.0					1	1.0	31	117.3	
CHESTERFIELD	23	54.5	10	18.6	9	11.5	2	8.0	5	23.3	5	3.7			9	12.2	11	42.6	4	.7	5	.7	1	.1	84	175.9	
CLARENDON	22	224.2	3	8.0	1	1.0	4	82.0	6	14.0	6	18.5	3	5.2	28	165.8	49	1537.7	5	16.2	1	3.0	1	10.0	129	2085.6	
COLLETON	25	92.5			38	140.3	10	20.6	5	24.8	6	31.0	1	.1	41	178.5	41	828.0	5	38.0	2	9.0			174	1362.8	
DARLINGTON	28	442.3	7	13.0	4	2.7	6	15.9	7	86.7	1	1.0	1	6.0	12	49.3	2	6.0	3	2.3	3	3.5	4	25.0	78	653.7	
DILLON	13	17.1	2	2.2	6	5.2	5	11.6	2	4.0	4	40.2			2	.4	9	16.0	2	2.3	2	4.2	7	15.7	54	118.9	
DORCHESTER	36	211.1	4	62.0	25	59.2	6	68.6	2	1.5	4	25.0			19	64.3	29	162.2	2	28.0			1	1.0	128	662.9	
EDGEFIELD	4	41.0	4	101.1	1	1.0	2	.8							2	2.2	5	41.3							18	187.4	
FAIRFIELD	16	136.3	5	3.3	5	1.3	1	.1							2	5.1	7	17.1	1	.6	3	1.2	2	.3	42	165.3	
FLORENCE	48	189.7	3	8.0	4	10.1	4	12.6	5	26.3	3	1.5			16	122.5	28	418.5	12	40.8	1	.3	6	28.6	130	858.9	
GEORGETOWN	31	818.9	1	2.0	8	3.7	10	25.2	4	4.1	8	8.6	2	.2	9	19.4	45	292.8	11	72.8	3	3.4	4	9.2	136	1260.3	
GREENVILLE	8	16.1	1	1.0	1	1.0	2	15.1	6	57.4	2	2.3			5	71.0	11	29.3	1	2.0			1	.1	38	195.3	
GREENWOOD	43	220.9	12	42.5	4	3.3	1	2.0	3	2.5			1	2.0	9	19.4	11	14.1	4	6.5	1	5.0			89	318.2	
HAMPTON	9	8.9	3	1.1	3	5.1	4	1.8	3	8.1	1	1.0			13	20.7	8	42.7	2	7.0					46	96.4	
HORRY	35	184.5			13	38.5	30	85.5	21	45.2	6	15.4			16	175.2	62	1103.6	13	60.4	2	2.5	11	30.1	209	1740.9	
JASPER	47	223.7	4	9.2	15	123.7	8	19.1	6	84.1	4	5.1			31	194.9	47	802.9	4	3.5			1	1.0	167	1467.2	
KERSHAW	26	73.3	5	9.0	10	12.2	1	1.0	1	1.5	4	3.2			9	19.0	7	2.0	1	1.0	1	.5	2	1.2	67	123.9	
LANCASTER	10	17.9			3	5.2	1	.5	4	9.0					4	20.0	4	13.0	1	.2	1	1.0	3	5.0	31	71.8	
LAURENS	11	67.5	7	118.0	2	15.0									2	1.0	4	29.0							26	230.5	
LEE	20	103.7	1	.5	1	.5			2	10.5	1	15.0	1	10.0	7	310.1	9	63.0	1	.5	1	5.0	1	5.0	45	523.8	
LEXINGTON	47	100.9	11	4.3	14	66.4	1	.1	6	1.7	8	3.7	1	.2	50	50.9	48	106.9	10	5.2	2	2.2	1	.2	199	342.7	
MANCHESTER S																											
MARION	9	13.7	1	.5	3	5.4			2	3.0	2	.3			5	24.2	12	18.2	1	.1	1	.1	2	2.2	38	67.7	
MARLBORO	7	6.6	2	.5	4	4.5	1	.5	1	1.0	2	11.0			3	4.0	9	3622.2	1	2.0	3	.6	1	.6	34	3653.5	
MCCORMICK	8	38.3	4	384.6	2	.2									6	1.9	6	11.7	2	.3			1	.1	29	437.1	
NEWBERRY	7	246.8	2	3.0					2	4.0					2	1.1	5	10.5					1	.1	19	265.5	
OCONEE	8	15.5			3	52.5			2	3.0					3	14.5	4	18.5							20	104.0	
ORANGEBURG	26	25.1	4	3.4	26	79.7	5	12.0	3	1.3	6	6.2	1	6.0	25	43.5	36	71.3	6	9.8			2	6.0	140	264.3	
PICKENS	12	16.0	3	1.0			2	2.0	6	20.4	3	.9	1	.3	5	4.6	7	57.5	2	1.1					41	103.8	
RICHLAND	20	34.7	2	1.5	3	6.5	6	14.0	4	29.0	1	1.0			9	40.5	12	88.0	2	5.0			1	1.0	60	221.2	
SALUDA	3	50.3			1	.1			2	.2					1	.1	3	7.5	3	1.2			1	1.0	14	60.4	
SAND HILLS S																											
SPARTANBURG	13	32.0	3	7.0	5	3.5			1	1.0	1	2.0	1	2.0	2	1.1	14	39.5	4	21.5	1	1.0			45	110.6	
SUMTER	26	118.4	9	23.7	4	27.7			2	3.5	2	5.5			13	111.7	32	339.2	4	13.8			5	17.1	97	660.6	
UNION	2	26.0											1	.5		3	3.5								6	30.0	
WILLIAMSBURG	30	118.9	6	8.5	9	40.1	7	10.6	8	37.5	17	12.9	5	17.1	66	321.4	156	1270.3	27	101.3	3	5.0	4	6.1	338	1949.7	
YORK	6	13.8	3	3.5	2	3.0			1	.3							6	7.2	2	1.3	1	.3			21	29.4	
TOTAL	830	4786.4	150	985.4	315	984.0	145	460.0	186	589.0	127	281.7	34	224.3	606	3693.5	985	14478.5	170	627.5	42	52.4	70	174.4	3660	27337.1	

SOUTH CAROLINA FORESTRY COMMISSION TOTAL ALL LAND FIRES BY COUNTY AND MONTH FISCAL YEAR 91

	JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		TOTAL	
	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES	NO.	ACRES
ABBEVILLE	8	26.5	1	.2	1	.1			6	10.2					8	8.2	4	46.0	5	10.2			2	2.5	35	103.9
AIKEN	47	77.6	14	56.2	20	29.2	5	23.5	9	12.5	6	44.8	4	28.3	25	59.6	28	90.7	8	15.8	3	1.8	3	4.6	172	444.6
ALLENDALE	7	25.4	4	.7	18	77.3	2	2.2					1	4.0	6	7.0	3	1.6					1	1.0	42	119.2
ANDERSON	13	65.4			2	8.5			8	17.5					8	29.0	11	67.1	1	1.0	1	1.5			44	190.0
BAMBERG	7	6.7	3	25.3	14	87.0	5	4.9	1	6.0					14	29.8	14	34.9					1	3.0	59	197.6
BARNWELL	13	9.0	3	10.3	6	36.1	5	6.2	3	.9	3	5.8			14	52.2	15	37.1	2	.2			2	.3	66	158.1
BEAUFORT	16	43.0			11	9.7			3	8.0	3	4.2			26	570.1	31	73.8	2	4.0					92	712.8
BERKELEY	46	455.8	4	50.2	19	35.0	9	15.5	18	17.7	18	78.4	13	169.6	83	936.5	132	2928.6	18	140.1	3	2.1			363	4829.5
CALHOUN	4	8.3	2	8.5	3	15.2	1	.1	2	3.6	1	1.5	1	4.0	7	23.9	11	24.7							32	89.8
CHARLESTON	15	52.2			14	40.6	1	.3	4	30.0			1	.7	16	97.2	18	154.9							69	375.9
CHEROKEE	11	13.6	1	2.0	1	4.0	3	7.1	12	9.0	5	4.2			5	11.0	16	39.2	3	1.4			3	6.0	60	97.5
CHESTER	18	106.7	1	1.0	2	2.0			6	4.5	2	1.5			5	26.1	7	7.5					1	1.0	42	150.3
CHESTERFIELD	42	67.7	12	19.0	10	21.1	4	8.4	7	25.5	5	4.7			16	20.4	11	43.6	5	.8	6	.8	2	.2	120	212.2
CLARENDON	29	237.4	3	8.0	1	1.0	5	85.0	8	25.1	12	32.2	3	5.2	34	217.3	60	1704.2	6	51.2	1	3.0	2	10.1	164	2379.7
COLLETON	32	101.9	3	.3	42	145.5	15	521.9	5	25.0	11	55.2	3	3.3	51	250.3	53	900.0	6	38.1	3	9.1	1	.1	225	2050.7
DARLINGTON	28	450.3	7	13.0	4	2.7	6	15.9	7	86.7	3	8.0	2	6.2	17	59.8	3	6.1	3	2.3	4	4.0	4	25.0	88	680.0
DILLON	13	17.1	2	2.2	6	5.2	6	11.7	2	4.0	4	80.2			2	.4	9	16.0	2	2.8	2	4.2	9	16.9	57	160.7
DORCHESTER	38	212.9	4	62.0	28	86.2	9	71.6	3	6.5	9	35.5			20	65.3	30	172.7	2	28.0			2	1.5	145	742.2
EDGEFIELD	6	64.0	4	105.1	2	1.2	2	.9			1	.2			2	20.2	5	43.1							22	234.7
FAIRFIELD	19	136.7	5	3.3	6	1.9	1	.1	2	7.2			1	.7	3	5.2	7	17.1	1	1.0	3	1.2	5	.8	53	175.2
FLORENCE	53	208.5	3	8.0	5	10.2	7	15.0	6	28.3	8	11.9	1	4.0	19	137.0	31	431.7	15	44.9	1	.3	8	28.8	157	928.6
GEORGETOWN	33	820.6	1	2.0	8	3.8	10	25.2	4	4.3	9	9.7	2	.2	13	25.8	47	329.2	11	77.8	3	3.4	4	9.2	145	1311.2
GREENVILLE	10	17.7	3	8.0	1	1.0	2	15.1	6	75.4	2	5.3			5	79.0	13	30.8	1	2.0			1	.1	44	234.4
GREENWOOD	44	221.9	12	42.5	4	3.3	1	2.0	3	2.5			1	2.0	10	20.4	11	14.2	5	11.3	1	5.0	1	.1	93	325.2
HAMPTON	10	10.0	3	1.1	4	5.2	5	1.9	6	8.4	3	1.2			15	23.4	11	48.4	2	7.0	1	.1			60	106.7
HORRY	35	187.5			13	38.5	30	86.2	21	45.2	6	19.4			16	175.2	62	1146.6	14	63.5	2	2.5	11	30.1	210	1794.7
JASPER	52	230.0	5	9.3	18	247.0	8	20.2	7	90.3	5	5.2	2	2.1	35	202.0	49	814.6	5	4.1			2	1.1	188	1625.9
KERSHAW	26	73.3	6	11.0	10	12.2	1	1.0	1	1.5	4	3.2			9	19.0	12	6.3	2	3.0	1	.5	2	1.2	74	132.2
LANCASTER	11	18.9	1	2.0	3	5.2	2	2.5	4	9.0	1	.5			4	20.0	8	17.2	1	.2	1	1.0	3	5.0	39	81.5
LAURENS	17	94.0	8	118.5	3	22.0	1	2.0							6	12.5	8	36.0	1	1.0					44	286.0
LEE	22	118.3	2	.6	1	.5			2	10.5	2	15.2	1	10.0	13	333.6	11	70.5	1	.5	1	5.0	1	5.0	57	569.7
LEXINGTON	47	100.9	11	4.3	14	66.4	1	.1	6	1.7	8	3.7	1	.2	50	50.9	48	106.9	10	5.2	2	2.2	1	.2	199	342.7
MANCHESTER S																										
MARION	11	16.9	1	.5	3	5.4			2	5.0	3	2.8	1	2.0	5	24.7	12	18.2	1	.1	1	.1	3	2.4	43	78.1
MARLBORO	7	6.6	2	.5	4	4.5	1	1.5	2	1.1	2	11.0			5	7.1	11	3637.5	1	2.0	3	2.5	1	.6	39	3674.9
MCCORMICK	11	42.0	7	384.9	2	.2	1	.1	1	.1					7	2.2	7	11.8	3	.4			1	.1	40	441.8
NEWBERRY	7	247.0	2	3.0	1	1.0			2	4.0					2	1.1	5	11.5					1	.1	20	267.7
OCONEE	10	15.7	1	.1	3	52.5			3	5.0	2	3.3			1	1.0	4	23.0	4	18.5	1	6.0			29	125.1
ORANGEBURG	32	37.6	5	3.5	35	102.9	5	16.0	5	13.3	7	18.8	4	23.0	27	65.3	45	105.4	6	9.8			3	6.2	174	401.8
PICKENS	14	24.0	3	1.0			2	2.1	6	21.1	3	.9	1	.3	5	4.7	7	88.0	2	1.1					43	143.2
RICHLAND	22	36.7	3	2.0	5	11.0	6	14.0	4	29.0	1	1.0			11	52.0	15	99.0	2	5.0			1	1.0	70	250.7
SALUDA	5	135.3	3	.6	1	.1	1	.1	2	.3					2	.2	3	7.5	3	2.2			1	1.0	21	147.3
SAND HILLS S																										
SPARTANBURG	18	49.0	4	12.0	5	3.5			1	1.0	1	2.0	1	2.0	5	16.1	19	63.5	4	21.5	1	1.0			59	171.6
SUMTER	27	143.4	9	27.7	5	28.7	1	1.5	2	3.5	3	15.0			17	139.1	37	449.1	5	22.3			5	17.1	111	847.4
UNION	18	92.5	3	8.5	2	1.5			5	4.5	2	1.5	2	1.5	5	6.0	9	10.5							46	126.5
WILLIAMSBURG	30	118.9	6	8.5	9	40.1	7	10.6	9	38.5	18	18.1	5	17.1	67	323.9	157	1273.3	27	101.3	3	5.0	4	6.1	342	1961.4
YORK	8	34.0	3	3.5	3	3.2			4	3.0	1	.1			1	1.0	8	8.3	2	1.3	2	.4			32	54.8
TOTAL	992	5279.4	180	1030.9	372	1279.4	171	992.4	220	706.4	174	506.2	51	286.4	717	4232.7	1118	15267.9	192	702.9	50	62.7	92	188.4	4329	30535.7

FOOTNOTES AND WORKSHEET INFORMATION
FOR THE SOUTH CAROLINA FORESTRY COMMISSION

SOUTH CAROLINA FORESTRY COMMISSION
FOREST AND NON-FOREST LAND FIRES BY COUNTY
FISCAL YEAR 91

COUNTY	TOTAL AREA PROTECTED	FOREST LAND NUMBER OF FIRES	AREA BURNED	NON-FOREST LAND NUMBER OF FIRES	AREA BURNED	NUMBER OF FIRES	TOTAL ALL LAND AREA BURNED	% AREA BURNED	AVG. AC. PER FIRE
ABBEVILLE	219,465	14	69.0	21	34.9	35	103.9	.05	3.0
AIKEN	440,546	146	328.7	26	115.9	172	444.6	.10	2.6
ALLENDALE	170,016	31	96.1	11	23.1	42	119.2	.07	2.8
ANDERSON	205,182	43	149.0	1	41.0	44	190.0	.09	4.3
BAMBERG	157,809	58	185.0	1	12.6	59	197.6	.13	3.3
BARNWELL	132,906	42	95.1	24	63.0	66	158.1	.12	2.4
BEAUFORT	150,534	51	554.8	41	158.0	92	712.8	.47	7.7
BERKELEY	393,479	335	4,735.3	28	94.2	363	4,829.5	1.23	13.3
CALHOUN	146,634	30	76.7	2	13.1	32	89.8	.06	2.8
CHARLESTON	264,437	56	272.4	13	103.5	69	375.9	.14	5.4
CHEROKEE	165,015	31	37.5	29	60.0	60	97.5	.06	1.6
CHESTER	307,085	31	117.3	11	33.0	42	150.3	.05	3.6
CHESTERFIELD	376,724	84	175.9	36	36.3	120	212.2	.06	1.8
CLARENDON	223,028	129	2,085.6	35	294.1	164	2,379.7	1.07	14.5
COLLETON	501,274	174	1,362.8	51	687.9	225	2,050.7	.41	9.1
DARLINGTON	197,151	78	653.7	10	26.3	88	680.0	.34	7.7
DILLON	158,476	54	118.9	3	41.8	57	160.7	.10	2.8
DORCHESTER	294,709	128	682.9	17	59.3	145	742.2	.25	5.1
EDGEFIELD	227,065	18	187.4	4	47.3	22	234.7	.10	10.7
FAIRFIELD	409,252	42	165.3	11	9.9	53	175.2	.04	3.3
FLORENCE	301,969	130	858.9	27	69.7	157	928.6	.31	5.9
GEORGETOWN	423,817	136	1,260.3	9	50.9	145	1,311.2	.31	9.0
GREENVILLE	311,394	38	195.3	6	39.1	44	234.4	.08	5.3
GREENWOOD	210,955	89	318.2	4	7.0	93	325.2	.15	3.5
HAMPTON	284,647	46	96.4	14	10.3	60	106.7	.04	1.8
HORRY	497,121	209	1,740.9	1	53.8	210	1,794.7	.36	8.5
JASPER	331,913	167	1,467.2	21	158.7	188	1,625.9	.49	8.6
KERSHAW	380,314	67	123.9	7	8.3	74	132.2	.03	1.8
LANCASTER	285,320	31	71.8	8	9.7	39	81.5	.03	2.1
LAURENS	315,095	26	230.5	18	55.5	44	286.0	.09	6.5
LEE	131,603	45	523.8	12	45.9	57	569.7	.43	10.0
LEXINGTON	271,581	199	342.7	0	0.0	199	342.7	.13	1.7
MANCHESTER S									
MARION	226,184	38	67.7	5	10.4	43	78.1	.03	1.8
MARLBORO	188,471	34	3,653.5	5	21.4	39	3,674.9	1.95	94.2
MCCORMICK	166,791	29	437.1	11	4.7	40	441.8	.26	11.0
NEWBERRY	269,596	19	265.5	1	2.2	20	267.7	.10	13.4
OCONEE	224,876	20	104.0	9	21.1	29	125.1	.06	4.3
ORANGEBURG	402,276	140	264.3	34	137.5	174	401.8	.10	2.3
PICKENS	238,974	41	103.8	2	39.4	43	143.2	.06	3.3
RICHLAND	303,252	60	221.2	10	29.5	70	250.7	.08	3.6
SALUDA	185,142	14	60.4	7	86.9	21	147.3	.08	7.0
SAND HILLS S									
SPARTANBURG	278,233	45	110.6	14	61.0	59	171.6	.06	2.9
SUMTER	254,928	97	660.6	14	186.8	111	847.4	.33	7.6
UNION	218,161	6	30.0	40	96.5	46	126.5	.06	2.8
WILLIAMSBURG	428,121	338	1,949.7	4	11.7	342	1,961.4	.46	5.7
YORK	286,737	21	29.4	11	25.4	32	54.8	.02	1.7
TOTAL	12,558,258	3,660	27,337.1	669	3,198.6	4,329	30,535.7	.24	7.1

PERCENT OF FIRES BY CAUSE FIVE YEAR PERIOD

Cause	1986-87	1987-88	1988-89	1989-90	1990-91
Lightning	6.9	2.5	2.3	1.5	4.9
Campfire	0.4	0.4	0.5	0.4	0.5
Smoking	6.6	5.5	3.9	5.1	4.9
Debris Burning	26.6	28.9	30.7	33.4	25.4
Incendiary	43.3	45.1	46.9	41.8	45.2
Equipment Use	4.5	4.9	4.3	5.1	5.5
Railroad	1	2.5	1.9	1.7	1.0
Children	5.1	4.5	4.6	4.2	4.6
Miscellaneous	5.6	5.7	4.9	6.8	7.9

TOTAL ALL LAND FIRES BY CAUSE FISCAL YEAR 1990-91

Causes	Number of Fires	Percent of Total Number	Area Burned (Acres)	Average Area Per Fire (Acres)
Lightning	214	4.94	3540.4	16.5
Campfire	22	0.51	48.1	2.1
Smoking	213	4.92	4081.4	191
Debris Burning	1101	25.43	6327.6	5.7
Incendiary	1958	45.24	13710.9	7.0
Equipment Use	237	5.47	1026.4	4.3
Railroad	45	1.04	331.8	7.3
Children	197	4.55	448.6	2.2
Miscellaneous	342	7.9	1020.5	2.9
Totals	4329	100	30535.7	7.1

FIVE YEAR SUMMARY FIRE STATISTICS

Fiscal Year	FOREST LAND			NON FOREST LAND			ALL LANDS		
	Total Area Protected	Number Forest Land Fires	Forest Land Burned	Number Non Forest Fires	Acres Non Forest Burned	Total No. All Land Fires	Total Acres	Average Acres Per Fire	% Area Burned
1986-87	12031090	3963	18497.7	695	2660.0	4658	21157.7	4.7	0.15
1987-88	12558258	7078	35344.7	1388	7269.4	8466	42614.4	5.0	0.28
1988-89	12558258	4990	24950.0	860	4142.2	5850	29092.2	5.0	0.23
1989-90	12558258	3786	16430.6	995	4046.0	4861	20476.6	4.2	0.16
1990-91	12558258	3660	27337.1	669	3198.6	4329	30535.7	7.1	0.24
Five Year Average		4695	24512.0	921	4263.2	5632	28775.3	5.2	0.21

NOTE: 10% was added to Total Area Protected in 1987-88 to cover Non-Forest Lands Protected

SOUTH CAROLINA FORESTRY COMMISSION
PROPERTY LOSS REPORT from WILDFIRE
FROM 07/01/90 THRU 06/30/91

DISTRICT & COUNTY	HOMES		OTHER STRUCT.		EQUIPMENT		VEHICLES		OTHER	
	NR.	EST. VALUE	NR.	EST. VALUE	NR.	EST. VALUE	NR.	EST. VALUE	NR.	EST. VALUE
CHESTERFIELD	0	0	0	0	0	0	0	0	0	0
KERSHAW	0	0	0	0	0	0	0	0	0	0
LANCASTER	0	0	0	0	0	0	0	0	0	0
LEE	0	0	1	0	0	0	0	0	0	0
RICHLAND	0	0	0	0	0	0	1	6,000	0	0
SUMTER	0	0	2	5,100	0	0	0	0	0	0
DISTRICT TOTAL	0	0	3	5,100	0	0	1	6,000	0	0
*FLORENCE DISTRICT										
DARLINGTON	0	0	0	0	0	0	0	0	0	0
DILLON	0	0	0	0	0	0	0	0	0	0
FLORENCE	0	0	0	0	0	0	1	100	19	600
BORRY	0	0	1	200	1	900	0	0	4	350
MARION	0	0	0	0	0	0	0	0	0	0
MARLBORO	1	17,500	1	500	0	0	0	0	0	0
DISTRICT TOTAL	1	17,500	2	700	1	900	1	100	23	950
*KINGSTREE DISTRICT										
BERKELEY	0	0	0	0	0	0	0	0	0	0
CLARENDON	0	0	1	200	0	0	1	1,500	0	0
GEORGETOWN	0	0	0	0	0	0	0	0	0	0
WILLIAMSBURG	0	0	0	0	0	0	0	0	0	0
DISTRICT TOTAL	0	0	1	200	0	0	1	1,500	0	0
*NEWBERRY DISTRICT										
ABBEVILLE	0	0	0	0	0	0	0	0	4	900
CHESTER	0	0	0	0	0	0	0	0	0	0
EDGEFIELD	1	1,000	0	0	0	0	0	0	6	150
FAIRFIELD	0	0	0	0	0	0	0	0	6	200
GREENWOOD	0	0	2	1,000	0	0	1	600	1	4,000
LAURENS	1	30,000	2	1,000	0	0	2	5,000	35	700
MCCORMICK	0	0	0	0	0	0	0	0	0	0
NEWBERRY	0	0	1	5,000	1	7,000	0	0	0	0
SALUDA	0	0	3	2,000	0	0	0	0	0	0
DISTRICT TOTAL	2	31,000	8	9,000	1	7,000	3	5,600	52	5,950
*ORANGEBURG DISTRICT										
AIKEN	3	70,500	0	0	0	0	2	1,000	0	0
ALLENDALE	0	0	1	500	0	0	0	0	0	0
BAMBERG	0	0	1	500	0	0	0	0	0	0
BARNWELL	2	35,400	1	2,000	0	0	1	900	0	0
CALHOUN	0	0	0	0	0	0	0	0	0	0
LEXINGTON	0	0	2	2,500	0	0	0	0	1	2,950
ORANGEBURG	1	15,000	2	4,000	0	0	4	7,000	4	100
DISTRICT TOTAL	6	120,900	7	9,500	0	0	7	8,900	5	3,050
*SPARTANBURG DISTRICT										
ANDERSON	0	0	0	0	0	0	0	0	0	0
CHEROKEE	0	0	0	0	0	0	0	0	0	0
GREENVILLE	0	0	0	0	0	0	0	0	0	0
*SPARTANBURG DISTRICT										
OCONEE	0	0	0	0	0	0	0	0	48	0
PICKENS	0	0	2	33,000	2	46,000	1	500	2	7,850
SPARTANBURG	0	0	2	2,500	0	0	0	0	0	0
UNION	0	0	0	0	0	0	0	0	0	0
YORK	0	0	1	5,000	0	0	0	0	0	0
DISTRICT TOTAL	0	0	5	40,500	2	46,000	1	500	50	7,850
*WALTERBORO DISTRICT										
BEAUFORT	1	0	1	200	0	0	0	0	1	200
CHARLESTON	0	0	0	0	0	0	0	0	0	4,000
COLLETON	1	0	1	0	0	0	3	7,000	0	1,300
DORCHESTER	0	0	2	1,000	1	30,000	0	0	0	0
HAMPTON	0	0	0	0	0	0	0	0	0	0
JASPER	0	0	0	0	0	0	5	10,600	0	0
DISTRICT TOTAL	2	0	4	1,200	1	30,000	8	17,600	1	5,500
*MANCHESTER SF										
MANCHESTER SF	0	0	0	0	0	0	0	0	0	0
DISTRICT TOTAL	0	0	0	0	0	0	0	0	0	0
*SAND HILLS SF										
SAND HILLS SF	0	0	0	0	0	0	0	0	0	0
DISTRICT TOTAL	0	0	0	0	0	0	0	0	0	0
STATE TOTAL	11	169,400	30	66,200	5	83,900	22	40,200	131	23,300

INFORMATION & EDUCATION SECTION

"Hugo the Hurricane," a slide/tape program documenting the effects of the hurricane and the Forestry Commission's response was completed in September.

A four-color poster entitled "Look Out South Carolina," was made to heighten awareness of our forests and the Commission's role in forest protection.

Fire Prevention

Fire prevention in the Hugo area was a high priority again this year. Called **Take Five**, the Commission's fire prevention campaign sought to provide a positive transition from last year's "avoid burning" position to one of safe, responsible use of fire.

The campaign title emphasized the need to stop ("take five") and think before starting outdoor fires. The message was amplified by offering five basic steps toward outdoor fire safety.

Several important print pieces were developed to emphasize the safe burning message. Most significant was a wall calendar featuring a full-color photo montage of Hugo recovery and an appropriate fire safety message for each month of the year.

Paid radio and television advertising was the mainstay of the public information effort. Three new video spots were developed and aired, and numerous paid messages were disseminated through the South Carolina Radio Network. In addition, a fire danger index was featured once each week on television weather news; the index was used daily on radio throughout the fire season.

In late April, a major family education program was launched. The program, called Ranger Cadets, teaches children basic forest fire prevention through a series of stories and related activities. Upon completion of the activities, the child receives a Ranger Cadet badge, membership card, phone tag, pencil, and stickers. A thirty second television spot featuring Smokey Bear promoted the Ranger Cadet program. In two months of operation, the program attracted over 2,500 applicants; over 20% of these have already earned their badges.

Other materials developed included two posters, a fireworks safety flyer, and a mini-poster outlining new requirements for obtaining an authorization to burn.

In addition to the many fire prevention events staged by field personnel, Columbia Office and Spartanburg District worked with the USFS on a three-day Smokey Sports promotion at Clemson University.

Demand for fire prevention materials exceeded our supply capability for the third straight year. Materials provided to the Districts during the FY are as follows:

<u>District</u>	<u>No. of Pieces</u>
Camden	27,500
Florence	22,600
Kingstree	14,900
Newberry	23,500
Orangeburg	18,700
Spartanburg	27,200
Walterboro	17,400
TOTAL	<u>151,800</u>

URBAN FORESTRY

Urban forestry seeks to improve the quality of life in populated areas through the management of the urban tree resources. Clean air, clean water, aesthetics, noise buffering, energy conservation, and public safety are the products of this endeavor.

The Information and Education Section is responsible for the planning and operation of the Commission's urban forestry technical assistance program.

Urban Forestry Conference

The Forestry Commission sponsored South Carolina's first Urban Forestry Conference at the Embassy Suites Hotel in Columbia. The keynote address was presented by Mr. Don Willeke, Chair of the National Urban Forestry Council. About 135 people attended the conference. The program was highlighted with an Arbor Day planting with First Lady Iris Campbell at the Governor's Mansion.

Urban Forestry Council

Following the Urban Forestry Conference in December, a group of interested individuals voted to form a South Carolina Urban and Community Forestry Council. The Founders Committee met three times and adopted bylaws in February. The State Forester appointed the first twenty-two member Executive Committee in March. The Executive Committee met in April and elected officers. The Council assisted the Forestry Commission in the review and approval of America The Beautiful grants.

America The Beautiful

In March an urban forestry program coordinator and a community action forester were employed full-time through funding provided by the America The Beautiful grant program.

America The Beautiful is a national urban and community forestry grants program funded by Congress through the U.S. Forest Service. South Carolina received \$150,000

to provide technical assistance and \$190,000 for pass-through grants to county and local governments, non-profit organizations, and educational institutions.

The following applicants were funded under the America The Beautiful program in 1991:

<u>Applicant</u>	<u>Project</u>
1. Trees for Tomorrow Hartsville	Hugo Tree Replacement
2. Town of Seabrook Island	Scenic Highway Planting
3. Harbison State Forest	Urban Tree Trail
4. SC Forestry Foundation	Project Learning Tree Expansion
5. Chesnee Area Development Assoc.	Demonstration Planting - Entrance Beautification
6. Charleston County Park & Recreation Comm.	Tree Maintenance Demonstration
7. City of Greenville Parks & Grounds Dept.	Computerized Tree Inventory
8. City of Charleston Cypress Gardens	Magnolia Allee Restoration
9. City of Myrtle Beach Parks & Recreation	Inventory & Master Tree Plan
10. Camden Tree Foundation	Planting of Two Main Entrances
11. Town of Mount Pleasant	J. Dodds Blvd. Master Tree Plan
12. City of Rock Hill	Street Tree Inventory
13. City of Aiken	Parkway Management Plan
14. City of Charleston Department of Parks	Street Tree Inventory
15. City of Cayce	Knox Abbott Drive Design & Implementation
16. City of Goose Creek	Highway Design & Planting
17. Camden Business Development Corp.	Rutledge Street Planting
18. City of Clemson Planning & Development	Clemson Green Inventory & Plant
19. City of Spartanburg	Tree Inventory
20. Columbia Green	Gateway Beautification Planting
21. Lowcountry ReLeaf	Public Awareness Campaign
22. City of Conway	Consulting Arborist
23. City of Greer	Tree Inventory
24. Greenwood County	Street Tree Inventory
25. City of Lancaster	Historic District Planting
26. City of Florence Parks Commission	Master Plan Coordinator
27. City of Georgetown	Community Forestry Program
28. City of Isle of Palms	Energy Conservation Planting
29. City of Pickens	Downtown Tree Planting
30. Westminster Beautification Committee	Training
31. Clemson University	Urban Forestry Education

Technical Assistance

Two full-time urban foresters are employed by the Forestry Commission, one in Columbia and one in Charleston. Other Commission foresters provide urban forestry assistance in their service areas on a time-available basis.

Urban Forestry Accomplishments

	<u>Urban Foresters</u>		<u>Project Foresters</u>
	Columbia	Charleston	
Individual Assists	303	314	1029
Group Assists	89	115	69
Educational Programs	56	16	(reported elsewhere)

Training

The Charleston and Columbia urban foresters and the Horry County project forester attended the University of Florida's Urban Forestry Institute. This week-long urban forestry education program provides practicing urban foresters the latest technical information on urban forestry through classroom discussion and field exercises.

The urban forestry coordinator and the community action forester attended the Southern Chapter International Society of Arboriculture meeting in Raleigh. They also attended the Urban Forestry Inventory workshop in Savannah sponsored by the University of Georgia.

Special Urban Forestry Projects

Columbia Urban Forester

- Assisted the Greater Columbia Appearance Commission, the Richland County Planning Commission, and the City of Cayce in the development of tree protection and landscaping ordinances.
- Provided technical assistance for urban tree management at historic Robert Mills and Hampton Preston homes, the Governor's Mansion, the University of South Carolina, and the towns of Cheraw and Irmo.
- Assisted the Columbia Tree Division in making an inventory of trees and planting spaces in the historic Elmwood Park neighborhood.
- Served on the FEMA Hazard Mitigation Committee following severe flooding in the Coastal Plain. Recommendations were given to improve stormwater management.

- The Columbia and Charleston urban foresters both served on the Founders Committee that formed the South Carolina Urban and Community Forestry Council.

Charleston Urban Forester

- Served as a director and chair of the projects committee for Lowcountry Releaf, a citizens non-profit group dedicated to planting trees and educating people in the communities of Berkeley, Charleston, and Dorchester counties. In the last two years, the group has planted over 3,000 large trees (8-12' tall) at over 100 sites.

- Served as grant administrator for a \$150,000 grant from Texaco/Global Releaf in cooperation with Lowcountry Releaf and the City of Charleston. Over 500 large trees were planted at 11 sites in 7 communities.

- Developed the Clemson Coastal Arboretum, in cooperation with SCE&G, Clemson Extension Service, Charleston Parks Department, and Charleston County. Funding was provided through a grant from Texaco/Global Releaf.

Urban Coordinator

Assisted the Environmental Affairs Institute with developing and administering a community tree planting grant program for six communities in the Hugo area. Fifteen thousand dollars were provided by Linde Division of Union Carbide Corporation to plant trees in these communities.

Tree City USA

Sponsored by the National Arbor Day Foundation, TREE CITY USA is administered in South Carolina by the Forestry Commission.

The program seeks to stimulate and promote the management of urban trees by recognizing towns which meet the following criteria:(1) expenditure of at least one dollar per capita on tree care and planting, (2) establishment of a city tree ordinance and (3) a legally constituted Tree Board, and (4) observance of Arbor Day by a mayor's proclamation and official ceremony. South Carolina ranks 21st nationally with 23 towns recognized as TREE CITY USA:

AIKEN	CONWAY	LEXINGTON	TEGA CAY
ANDERSON	FLORENCE	MOUNT PLEASANT	WINNSBORO
CAMDEN	FOUNTAIN INN	PELION	
CAYCE	GREENVILLE	ROCK HILL	
CHARLESTON	HARTSVILLE	SPARTANBURG	
CHERAW	IVA	SUMMERVILLE	
COLUMBIA	LANCASTER	SUMTER	

Awards were presented by a representative of the State Forester's Office to town officials at the Governor's Community Improvement Board Luncheon in Columbia. An exhibit on TREE CITY USA was displayed by the Forestry Commission at the luncheon.

Project Learning Tree

An internationally recognized environmental education program, Project Learning Tree is supported in South Carolina by a steering committee composed of forestry and education professionals, and administered by the Forestry Commission.

In FY 1990-91, twenty-one PLT Educator Workshops were held for five hundred forty-three teachers. Traditionally one PLT leadership workshop has been held each year to train foresters, teachers and others to conduct educator workshops. In 1991 the number of people interested in becoming PLT facilitators was so large that three separate training workshops were scheduled. Seventy-six new facilitators were trained in April, bringing the total number of facilitators in South Carolina to over three hundred.

Arbor Day/Gold Leaf Award

The Forestry Commission and Clemson Extension Service cooperated in publicizing Arbor Day in South Carolina which falls on the first Friday in December. The International Society of Arboriculture's Gold Leaf Award was presented to the Westwood Elementary School in Abbeville County for the best school Arbor Day program and Mr. Brady Elliott, Superintendent of Columbia Tree Division, for outstanding landscape beautification.

Quarterly Newsletter

The expanded format for TREE COUNTRY: SC proved popular and cost effective, however, due to the year end budget freeze only three issues were produced during the fiscal year.

Hugo Reforestation

A reforestation campaign, "GIMME GREEN," was initiated by the Section. The campaign featured a free reforestation check-up offered through a 1-800 number. The program was publicized on television in August through a ten second animated spot followed by a thirty second paid announcement in the spring. Billboards and newspaper ads encouraged landowners to call for the free check-up on their Hugo damaged forest land. The State Fair exhibit featured a large GIMME GREEN billboard. As the campaign progressed, an exhibit entitled "Nature Destroys and Nature Renews—Look

What's Happening in Our Forest" was produced. The exhibit was placed at the Wildlife Expo in Charleston, at the Society of American Forester's Division Meeting, and at the Sportsman's Classic in Columbia. These showings presented our message to approximately 1,000,000 viewers. A four color poster with the same message was also produced to educate the public about the reforestation effort.

Exhibits/Publications

The Stewardship Forest Program was supported with two exhibits explaining the program. Two additional exhibits, "Tree Improvement in South Carolina, Why and How" and "Infrared Aerial Photography" were produced.

A four color brochure "Christmas Tree Species and Tips for Growers" was designed and produced. A brochure, "Cost Share Programs for Landowners," was written and produced. The popular booklet "Familiar Trees of South Carolina" was redesigned and produced by the Commission. Educational brochures on Harbison and Sand Hills State Forest were completed.

An invitation and program for the dedication of the Newberry District Office complex were produced.

Assisting the State Forester in an effort to show various legislative committies on "Restructuring" the unique services of the Commission, a folder with colored photos of these services was designed and produced.

The Section supported the Fire Management Section in presenting Prescribed Fire Manager Training. Support included: publicity, production of the course brochure and application, and assistance with the revised "Smoke Management Guidelines." The slide program, "Fire Behavior," was updated with new graphics.

An informational flier, "Forestry Facts 1990", was produced and distributed statewide.

Reprints included: "Trees and People Need Each Other" (both brochure and bumper sticker), "Put Down Roots, Plant A Tree" (bumper sticker), "The Price Guide For Seedlings," and a Seedling Order Form.

Photography

Photography plays an important role in all of the Commission's educational programs. In addition to products mentioned specifically, the photographer prepared ground and aerial photos of typical and atypical wetlands. These photos were provided to the State Forester as interpretives for wetlands legislation.

Photo/camera familiarization seminars were conducted at Florence, Walterboro, Columbia, and Newberry Districts.

Color portraits of the Commissioners were made and placed at Commission Headquarters.

Policy and procedure for requesting and using original photographic materials was developed.

Woodworking Shop/Warehouse

This facility supports the statewide I & E effort by providing signage, cabinetry, and exhibit construction. It also serves as a central warehouse for receiving, storage, and distribution of printed material.

During the fiscal year, a FEMA-funded helper was assigned to assist the shop's Master Craftsman. Their accomplishments include: construction of 56 wooden signs, 37 pieces of custom-built office furniture, and 3 public exhibits. In addition, they provided carpentry support for five projects in the headquarters complex, and supported the Fire Management staff by constructing 10 large fire tool lockers.

Significant among their accomplishments was development of an improved literature storage and distribution center within the existing warehouse.

INFORMATION AND EDUCATION SUMMARY

District	General		School		Fire Prev.		Arbor Day		Workshop	
	No.	Attend	No.	Attend	No.	Attend	No.	Attend	No.	Attend
Camden	58	1979	66	2886	97	5229	8	1340	13	1530
Florence	15	463	77	2361	25	1019	8	230	13	178
Kingstree	12	533	15	653			6	1640	6	92
Newberry	28	4970	54	1310	27	2438	7	714	18	634
Orangeburg	35	2711	101	6402	46	6274	10	1436	14	303
Spartanburg	37	7188	128	11774	70	15447	20	2459	42	2881
Walterboro	13	716	27	5675	3	340	3	595	8	301
Total Districts	198	18560	468	31061	268	30747	62	8414	114	5919
State Forests	4	54	4	63					3	60
Nurseries			30	900					2	62
Columbia	57	2921	7	188	3	380	4	700	31	1154
Grand Totals	259	21535	509	32212	271	31127	66	9114	150	7195

	TV	Print	Radio	Exhibits	Parades
Camden	7	44	19	8	8
Florence	36	41	16	5	19
Kingstree	15	52	16	5	6
Newberry	2	59	7	15	17
Orangeburg	2	57	5	2	25
Spartanburg	56	139	97	13	21
Walterboro	46	45	17	3	17
Total Districts	164	437	177	51	113
State Forests					
Nurseries					
Columbia	100	414	107	22	
Grand Total	264	851	284	73	113

INFORMATION AND EDUCATION ACTIVITIES FIVE YEAR SUMMARY

YEAR	NUMBER OF ATTENDANCE PROGRAMS		MEDIA CONTACTS	PARADE/ EXHIBITS
86-87	837	52,206	637	120
87-88	902	63,826	843	161
88-89	1,053	62,432	914	154
89-90	1,283	106,201	1,330	195
90-91	1,255	101,183	1,339	186

STATE FORESTS

There are four state forests operated by the Forestry Commission: Cassatt, Harbison, Manchester and Sand Hills. This is the last year Cassatt will operate as a separate entity. It will become a compartment of the Sand Hill State Forest.

It is the objective of the Forestry Commission to practice the principles of multiple use and sustained yield timber management on forest lands under the agency's jurisdiction and to promote practices to protect and enhance environmental quality in the management of all forest ownerships.

Payment to Counties

Twenty five percent of the gross receipts of all state forest operations is paid to the county in which the forest is located. Fiscal year '90-91 payments to counties are as follows:

Chesterfield (Sand Hills State Forest) \$102,895.70
Darlington (Sand Hills State Forest) \$2,530.22
Sumter (Manchester State Forest) \$256,282.81

CASSATT STATE FOREST

Cassatt State Forest, with 462 acres, is located about two miles north of Cassatt, SC in Kershaw County. It was deeded to the state by the late J. R. West on May 28, 1935. Cassatt Lookout tower and a dwelling for the tower attendant were erected by the Civilian Conservation Corps (CCC) and continue to be used for fire detection.

HARBISON STATE FOREST

Harbison State Forest, the site of the agency's headquarters, is located northwest of Columbia in Richland County and contains 2,188 acres. The tract is being developed as a public greenspace, emphasizing environmental education and demonstrating prescribed forest management practices.

A sheltered amphitheater was constructed in the arboretum. The construction of a picnic shelter gazebo was begun in the arboretum picnic area. A brochure was designed to serve as a public information guide. A grant for \$16,000 was awarded for the construction of restroom facilities. The funding for the development of Harbison State Forest is through Land and Water Conservation Fund administered by the Department of Parks, Recreation and Tourism.

Six Boy Scout eagle projects were used to expand the arboretum tree identification trail. Ten schools or tour groups visited the forest involving an estimated 350 people. Numerous individuals visit Harbison with the general activities being walking, bird watching, sightseeing, or bicycle riding.

Harbison did not experience any wildfires during the year. One timber sale was conducted with 140 MBF being sold for \$24,182.86.

MANCHESTER STATE FOREST

Manchester State Forest, located south of Wedgefield in Sumter County, contains 28,830 acres. From 1939 to 1955, this land was leased by the Forestry Commission from the federal government. The state received title to this property on June 28, 1955.

During the year, purchase was finalized on two adverse properties: the Harvin School and Mt. Sinai A.M.E. Church sites. Each consisted of one acre; acquisition eliminated the prospect of the parcels being sold for private home sites, which would have created additional ingress/egress and regulatory problems.

Receipts

Receipts for operating budget	
Pine Straw	\$ 10,252.00
Hunting and fishing permits	\$18,467.50
Timber sales 401,380 bd.ft., 3,157 cds.	\$65,889.19
Rental fees and leases	\$112,759.00
Total	\$207,367.69

Timber sales efforts continue to be devoted to salvaging dead and dying timber from Hurricane Hugo and insect or disease problems.

Silvicultural Practices

Sixty-eight (68) acres were mechanically site prepared for tree planting. A total of 198 acres were planted and an additional 33 acres were replanted due to poor survival during the past year. Private vendors were contracted to plant 90 of the total acres planted.

The following species and number of trees where planted:

Improved Coastal Loblolly	77,500
Improved Longleaf	5,000
Total trees planted	82,500

Two hundred forty acres, to be utilized as pine straw production areas, were spot treated with herbicide for hardwood control and an additional 6 acres of longleaf were treated as a pine release demonstration.

Forest Protection

Twelve forest fires occurred during the year burning a total of 107.8 acres. Fire breaks were maintained in high value and high hazard areas. Periodic checks were made for insect and disease damage. Research in cooperation with the Southeastern Forest Experiment Station and the Insect and Disease Section of the Forestry Commission is being conducted on insect and disease prevention.

Five cases for violations of forest regulations were prosecuted; fines totaled \$985.00.

Recreation

Recreation other than hunting and fishing includes hiking, sightseeing, motorcycling, horseback riding and field trials. A total of 18 organized group activities were held on the forest involving an estimated 1,800 people.

Construction of a public rifle and pistol range was completed during the year.

In July, the rifle range with fifteen firing positions, was opened for use on Saturday mornings; in October, rifle range hours were expanded to include Sunday afternoons.

In December, the adjoining pistol range, with twelve positions, initially opened for use on Saturday mornings; hours were expanded to Sunday afternoons in March.

Both ranges were operated by a corps of volunteers. A total of 474 individuals used the rifle range and 218 used the pistol range.

Wildlife Management

An intensified program of wildlife management is conducted in cooperation with the S. C. Wildlife and Marine Resources Department. Deer and small game biologists provided recommendations for improving game management. Doe tags were recommended and utilized on the forest for the first time.

During the year, the possibility of entering the Wildlife and Marine Resources Department's Wildlife Management Area Program was pursued. In May, an agreement between the Forestry Commission and Wildlife Department was signed, incorporating the forest into the WMA program, effective at the start of the 1992 fiscal year.

Planting and/or maintenance was carried out on 103 wildlife plots containing 472 acres.

Assistance on game law enforcement was provided by the S. C. Wildlife and Marine Resources Department.

Total receipts for hunting and fishing permits were \$18,467.50.

Game	Number of Permits
Deer	1,536
Small game	757
Raccoon	14
Fish	1,280
Turkey	56

Agricultural Lands

Agricultural lands, consisting of approximately 350 acres, were leased to local farmers. Planting of soybeans, corn and wheat provide diversity on the forest and enhance wildlife management efforts.

Shaw Air Force Lease

The U.S. Air Force leases 7,996 acres of the forest for an aerial gunnery range to train pilots from various Air Force bases in the southeastern United States. The South Carolina Air National Guard has access to the range and uses it frequently.

SAND HILLS STATE FOREST

Sand Hills State Forest, located in Chesterfield and Darlington Counties, contains 46,000 acres. Leased from the federal government in 1939 for 50 years, the forest became self-supporting in 1966. Revenue accrued over expenses each year is expended on the forest for further improvements and expanded operations.

Silvicultural Practices

Trees were planted in fields and on lands that were harvest-cut and site prepared. A total of 321 acres were planted with longleaf pine and 50 acres were planted in loblolly.

Prescribed burning was done on approximately 4,521 acres. Compartment 11 had 2,032 acres. Compartment 16 had 2,489 acres.

Forest Protection

Seven wildfires occurred during the year burning a total of 1.3 acres. Firebreaks are maintained in high value and high hazard areas. Periodic checks are made for insect and disease activity and suspected resulting damage.

Recreation

The Sugar Loaf Mountain Recreation Area continued to receive heavy use. Besides the naturally formed 150 foot high Sugar Loaf Mountain, there are five picnic shelters, a lake, fireplaces, a flowing well, parking areas, and latrines. Scout troops and other organized groups use this area and facilities for overnight camping. Many auto touring visitors drive through this forest, especially to view the fall leaf colors and to enjoy the blooming rhododendron near Sugar Loaf Mountain in the spring. A nature trail is available for hiking. The trail winds through a typical sand hill branch and an undisturbed wooded area containing many species of mature trees. Use by horse riders continues to increase each year.

Game Management

Hunting was allowed in season by permit on the forest. Cooperation with the State Wildlife & Marine Resources Commission and the U. S. Fish and Wildlife Department was excellent in game law enforcement. Deer, dove and quail food patches were planted and maintained by the Forestry Commission.

There are thirteen ponds available for fishing on the forest. These are maintained through annual fertilization and weed control. This year, a total of 1,222 daily and 111 season permits were purchased.

Dove, quail, squirrel, deer, and rabbit hunting were permitted on the state forest portion. Permit sales total 18 daily and 28 season for deer. Small game permits were in the amount of 63 daily and 77 season.

During the year, the possibility of entering the Wildlife and Marine Resources Department's Wildlife Management Area Program was pursued. In May, an agreement between the Forestry Commission and Wildlife Department was signed, incorporating the forest into the WMA program, effective at the start of the 1992 fiscal year.

Land Rental

Twelve farmland contracts comprising 748 acres were renewed in 1990-91. All of the rented farmland is planted to corn, beans, grain, or one of the lespedezas. All of these crops benefit the wildlife program.

Forest Research and Demonstration

The longleaf regeneration study continues under the supervision of the U. S. Forest Service.

Hardwood growth study plots have been installed in Lynches River flood plain by Mills and Norman. Growth and merchantability of several hardwood species will be studied over a period of time.

Longleaf growth study plots have been installed on several different sites to determine growth on these sites.

Two improved Piedmont loblolly pine progeny test plots are installed. This is part of the loblolly genetic improvement program.

Red-Cockaded Woodpecker

Work continues to improve the woodpecker habitat and to help the population of this endangered species expand.

Scrub oaks and brush within 100 feet of all woodpecker trees in Compartments 11 and 16 were knocked down or cut. Flight paths were cut from these trees to mature longleaf pines nearby.

Information and Education

Information is available at forest headquarters and permit stations describing hunting, fishing and other activities. Public contact is made while issuing permits and routine field checking.

The annual prescribed burning school conducted by the Forestry Commission was again held at Sand Hills. Public and private foresters and technicians participated.

Information has been posted at Sugar Loaf Recreation Area concerning new rules and regulations. An information stand was set up at the entrance to the recreation area.

Receipts

Sawtimber 815,712 board feet pine	
Pulpwood 7,134 cords	\$313,193.55
Miscellaneous pulpwood 1,989 cords	
163,372 bd. ft. hdwd.	36,821.04
Straw	130,416.97
Rentals	9,148.00
Hunting and fishing permits	5,924.00
Miscellaneous	247.00
USDI	34,960.00
Less In-Direct Cost	- 7,005.43
TOTAL	\$523,705.13

STATE LANDS FOREST MANAGEMENT PROGRAM

The state lands forest management program was created to provide professional forest management assistance to S.C. state agencies that own timberlands.

During fiscal year 1990-91, nine agencies requested assistance from the Forestry Commission's state lands forester. The agencies and facilities were as follows:

Department of Wildlife and Marine Resources

Webb Wildlife Center
Santee Coastal Reserve
Tillman Stand Ridge heritage Trust
Colleton Cowbane Heritage Trust
Victoria Bluff Heritage Trust
Salvage Bay Heritage Trust
Lewis Ocean Bay heritage Trust

Department of Corrections

Wateree river Correction Farm

John de la Howe School

Department of Mental Retardation

Whitten Center
Coastal Regional Center

University of South Carolina

Wedge Plantation

Department of Parks, Recreation, and Tourism

Greenwood State Park
Myrtle Beach State Park
Hunting Island State Park
Hampton Plantation State Park
Huntington Beach State Park

Adjutant General

Budget and Control Board

General Services

S.C. State College

Camp Harry Daniels

Timber Revenue

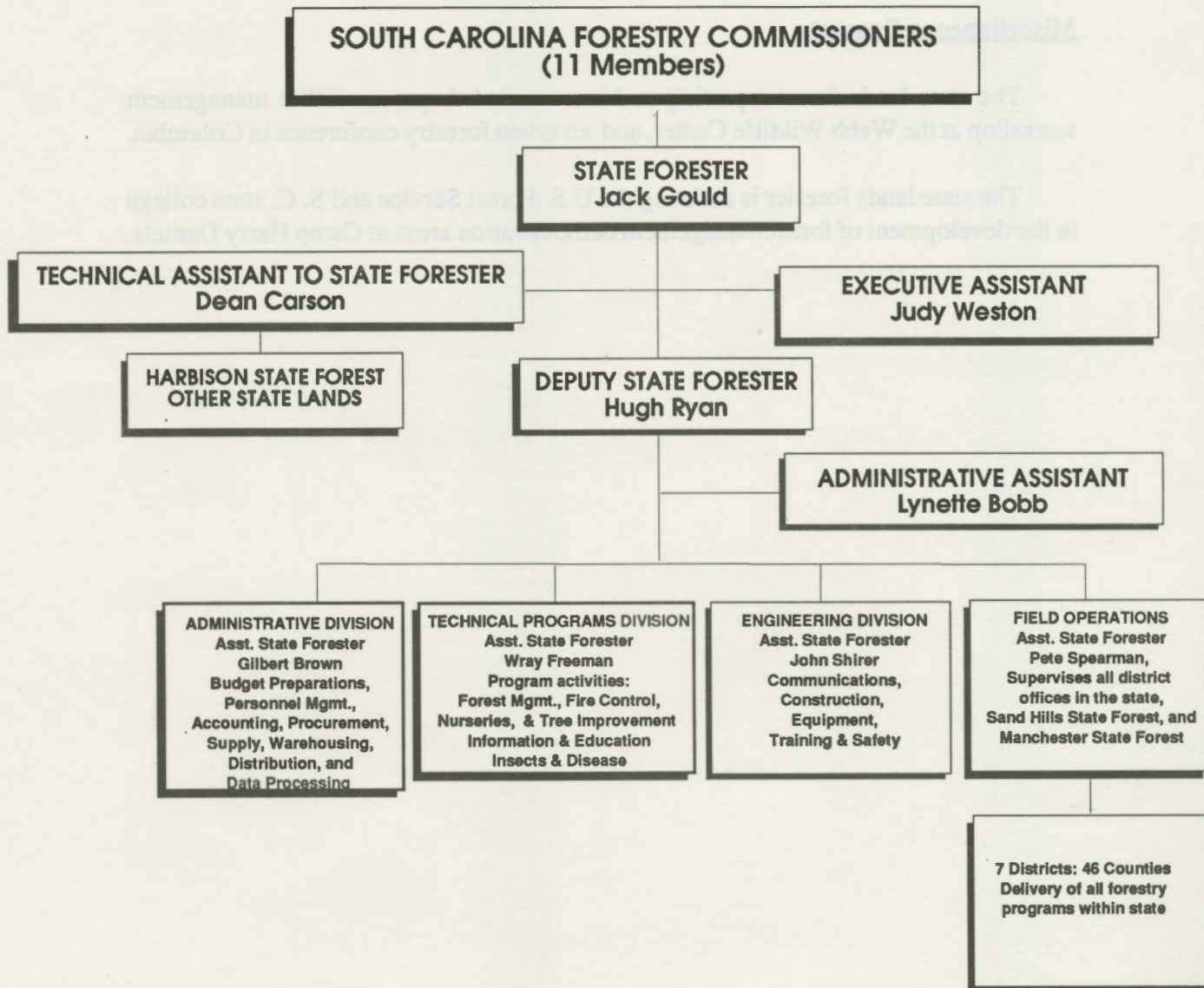
Four tracts were marked for timber sales, generating a revenue of \$143,408.00. The sales were selective thinnings for improving timber quality and wildlife habitat.

Two agencies, S. C. Wildlife and Marine Resources and John de la Howe School, participated in reforestation projects, with 155 acres being planted.

Miscellaneous Requests

The state lands forester is assisting the U.S. Forest Service and S. C. state college in the development of forest management demonstration areas at Camp Harry Daniels.

South Carolina Forestry Commission Organizational Chart



Total Number of Documents Printed	<u>455</u>
Cost Per Unit	\$ <u>2.60</u>
Printing Cost - S.C. State Budget & Control Board (up to 255 copies)	\$ <u>664.15</u>
Printing Cost - Individual Agency (requesting over 255 copies)	\$ <u>520.89</u>
Total Printing Cost	\$ <u>1185.04</u>